THE

AMERICAN JOURNAL

OF THE MEDICAL SCIENCES

FOR APRIL 1860.

CONTRIBUTORS TO THIS VOLUME.

W. F. ATLEE, M. D., *of Philadelphia.*
WASHINGTON L. ATLEE, M. D., *of Philadelphia.*
ROBERTS BARTHOLOW, M. D., *Assistant Surgeon U. S. A.*
J. BLOODGOOD, M. D., *of Chicago, Ill.*
J. H. BRINTON, M. D., *of Philadelphia.*
BEDFORD BROWN, M. D., *of Yanceyville, N. C.*
D. FRANCIS CONDIE, M D., *of Philadelphia.*
JAMES CORSE, M. D., *of Pennsylvania.*
R. CROCKETT, M. D., *of Wytheville, Va.*
J. DA COSTA, M. D., *of Philadelphia.*
BARTON DARRAH, M. D., *of Quincy, Ill.*
PLINY EARLE, M. D., *of Salisbury, Mass.*
C. ELLIS, M. D., *of Boston.*
C. S. FENNER, M. D., *of Memphis, Tenn.*
WM. H. GOTT, M. D., *of Readstown, Wis.*
EDWARD HARTSHORNE, M. D., *one of the Surgeons of the Pennsylvania Hospital.*
ISAAC HAYS, M. D., *of Philadelphia.*
ADDINELL HEWSON, M. D., *one of the Surgeons of Wills Hospital.*
H. LENOX HODGE, M. D., *Resident Physician at the Pennsylvania Hospital.*
B. J. D. IRWIN, M. D., *Assistant Surgeon U. S. A.*
WILSON JEWELL, M. D., *of Philadelphia.*
WM. KELLER, M. D., *of Philadelphia.*
W. S. KING, M. D., *Surgeon U. S. A.*
THOMAS S. KIRKBRIDE, M. D., *Physician to the Pennsylvania Hospital for the Insane, at Philadelphia.*
L. M. LAWSON, M. D., *Professor of Theory and Practice of Medicine in Medical College of Ohio.*
M. C. LEA, Esq., *of Philadelphia.*
W. J. LEAKE, M. D., *of Yazoo City, Miss.*
JOSEPH LEIDY, M. D., *Professor of Anatomy in the University of Pennsylvania.*
J. LEVERGOOD M. D., *of Lancaster, Pa.*
JOHN E. H. LIGGET, M. D., *of Middlebury, Va.*
E. MASON, M. D , *of Wetumpka, Ala.*
J. AITKEN MEIGS, M. D., *Prof. Institutes of Medicine in the Medical Department of Pennsylvania College.*
S. WIER MITCHELL, M. D., *of Philadelphia.*
JOHN H. PACKARD, M. D., *of Philadelphia.*
L. R. PARKE, M. D., *of Bloomington, Illinois.*
ISAAC G. PORTER, M. D., *of New London, Conn.*
B. ROEMER, M. D., *of Otter Bridge, Va.*
E. K. SANBORN, M. D., *Professor of Surgery in Castleton Medical College.*
B. F. SCHNECK, M. D., *of Lebanon, Pa.*
J. L. TEED, M. D., *of Mendota, Ill.*
R. P. THOMAS, M. D., *Prof. of Materia Medica in Philadelphia College of Pharmacy.*
H. B. TRIST, M. D., *Assistant Surgeon U. S. N.*
JOSEPH K. T. VAN PELT, M. D., *of Philadelphia.*
ALEXANDER VEDDER, M. D., *Assistant Surgeon U. S. N.*
ELLERSLIE WALLACE, M. D., *of Philadelphia.*
J. J. WOODWARD, M. D., *of Philadelphia.*
H. P. YEATES, M. D., *of Baltimore, Md.*

CONTENTS

OF THE

AMERICAN JOURNAL

OF THE

MEDICAL SCIENCES.

NO. LXXVIII. NEW SERIES.

APRIL, 1860.

ORIGINAL COMMUNICATIONS.

MEMOIRS AND CASES.

ART. PAGE

I. A Brief Account of the Pennsylvania Hospital for the Insane, at Philadelphia; with a Description of its New Buildings. By Thomas S. Kirkbride, M. D., Physician to the Institution. (With two plates.) . . 305

II. History, Medical Topography, Climatology, Hygiene, Diseases, &c., of Fort Bridger, Utah Territory. By Roberts Bartholow, A. M., M. D., Assistant Surgeon U. S. Army. (Extracted from Reports to Brevet Brigadier General Thomas Lawson, Surgeon General U. S. A.) . . 323

III. Contributions to Pathological Histology. I. Remarks on Errors in the Anatomical Diagnosis of Cancer. II. Remarks on a Secondary Cancer of the Axilla. By J. J. Woodward, M. D., of Philadelphia. (Read before the Biological Department of the Academy of Natural Sciences of Philadelphia. Dec. 4, 1859, and Jan. 16, 1860.) 331

IV. The Silver Wire in Ununited Fracture, with a Case. By E. K. Sanborn, M. D., Prof. Surgery in Castleton Medical College, and Berkshire Medical College, Massachusetts. 339

V. Case of Ununited Fracture of the Humerus. Failure of Brainard's Operation, and of the Seton. By C. S. Fenner, M. D., Memphis, Tenn. . 342

VI. Exsection of the Right Superior Maxilla, and a portion of the Left, for Disease of Long Standing. By Wm. H. Gott, M. D., of Readstown, Wisconsin. (Communicated by James M'Naughton, M. D., of Albany, N. Y.) 344

VII. Exsection of the Superior Maxillary, together with the Malar and Palate Bones of the Right Side. Recovery. By W. J. Leake, M. D., of Yazoo City, Miss. 348

VIII. Animal Chemistry, and its Relation to Therapeutics. By J. L. Teed, M. D., of Mendota, Ill. 351

IX. On Possible Ultimate Causes of Disease. By M. C. Lea, Esq. . . 360

X. Plica Polonica, an Endemic Disease at the Island of "Anno Bom." By Alexander Vedder, M. D., Assistant Surgeon U. S. Navy. . . . 363

XI. Gunshot Wound of Leg; Amputation and Recovery. By W. S. King, M. D., Surgeon U. S. A. 365

XII. Case of Face Presentation; Mento-sacral Position; Delivery without change of Position. By Wm. Keller, M. D., of Philadelphia. . . 366

XIII. Of the Transverse or Occipito-Iliac Positions of the Vertex Presentation. By Joseph K. T. Van Pelt, M. D., of Philadelphia. . . 367

TRANSACTIONS OF SOCIETIES.

ART. PAGE
XIV. Summary of the Transactions of the College of Physicians of Philadelphia. 375
Imperforate Rectum. By Dr. Ellerslie Wallace. 375
Report on Meteorology and Epidemics. By Dr. Wilson Jewell. . 377

BOYLSTON PRIZE ESSAY.

XV. Tubercle—its Pathology, and especially its Relation to Inflammation. By C. Ellis, M. D., of Boston. 399

REVIEWS.

XVI. A Practical Treatise on Fractures and Dislocations. By Frank Hastings Hamilton, M. D., Professor of Surgery in the University of Buffalo; Surgeon to the Buffalo Hospital of the Sisters of Charity; Consulting Surgeon, &c. &c. Illustrated with two hundred and eighty-nine wood-cuts. Philadelphia: Blanchard & Lea, 1860. 8vo. pp. 757. . . 419
XVII. The Transactions of the American Medical Association. Instituted 1847. Vol. XII. Philadelphia, 1859. 8vo. pp. 722. 439

BIBLIOGRAPHICAL NOTICES.

XVIII. Reports of American Institutions for the Insane.
1. Of the Maine Insane Hospital, for the year 1859.
2. Of the Vermont Asylum, for the fiscal year 1858–9.
3. Of the Massachusetts State Hospital, Worcester; fiscal year 1858–9.
4. Of the Massachusetts State Hospital, Taunton; fiscal year 1858–9.
5. Of the Massachusetts State Hospital, Northampton; fiscal year 1858–9.
6. Of the Butler Hospital, for the year 1859.
7. Of the State Hospital, Pennsylvania, for the year 1859.
8. Of the Western Pennsylvania Hospital, for the year 1859.
9. Of the Western Asylum, Virginia; fiscal years 1857–8, and 1858–9. . 453
XIX. On Criminal Abortion in America. By Horatio R. Storer, M. D., of Boston, etc. Philadelphia: J. B. Lippincott & Co., 1860. 8vo. pp. 107. 465
XX. Report on the Smallpox, in the City of Providence, R. I., from January to June, 1859. By Edwin M. Snow, M. D., Superintendent of Health. Providence, 1859. 468
XXI. Report of a Select Committee of the New York Chamber of Commerce on Quarantine. Adopted July 7, 1859. 8vo. pp. 48. . . . 470
XXII. Remarks upon Chylous or Milky Urine, with an Account of Two Cases of that Disease. By C. E. Isaacs, M. D., one of the Surgeons of the Brooklyn City Hospital, etc. etc. Read before the New York Academy of Medicine, June 15, 1859. 472
XXIII. Contributions to Operative Surgery and Surgical Pathology. By J. M. Carnochan, Professor of Surgery in the New York Medical College; Surgeon-in-Chief to the State Emigrants' Hospital, etc. With illustrations drawn from nature. Parts I., II., and III. Philadelphia: Lindsay & Blakiston, 1858–1860. 4to. pp. 127. 474
XXIV. Monograph on the Pathology of the Pituitary Body. By Middleton Michel, M. D., 8vo. pp. 32, Charleston, S. C., 1860. 475
XXV. Medico-Chirurgical Transactions. Published by the Royal Medical and Chirurgical Society of London. Vol. XLII. London, 1859. 8vo. pp. 461. 476
XXVI. On the Diseases and Injuries of the Joints.—Clinical and Pathological Observations. By Thomas Bryant, F. R. C. S., Assistant Surgeon, Surgical Registrar, and Lecturer upon Operative Surgery, at Guy's Hospital. London: John Churchill, 1859. 8vo. pp. 273. 487

ART. PAGE

XXVII. 1. The Anatomy of the Human Lung; an essay, for which was awarded the Fothergillian gold medal of the Medical Society of London. By A. T. Houghton Waters, Member of the Royal College of Physicians of London, &c. &c. London: John Churchill, 1859. pp. 233.

2. On the Intimate Structure, and the Distribution of the Bloodvessels of the Human Lung. By A. T. H. Waters, M. R. C. P., &c. (From the Proceedings of the Royal Society for May 26, 1859. Communicated by Dr. Sharpey.) pp. 12. 490

XXVIII. Report on the Health of the Waterguard and Waterside Officers of Her Majesty's Customs during 1858. By J. O. McWilliam, M. D., F. R. S., C. B., R. N., Medical Inspector of Her Majesty's Customs. London, 1859. 492

XXIX. On Excision of the Knee-Joint; illustrating the principal complications which are likely to arise after the performance of that operation, and especially the want of subsequent development and growth in the limb of the young subject. By Oliver Pemberton, Surgeon to the General Hospital, and Lecturer on Surgical Pathology at Sydenham College, Birmingham. London, 1859. pp. 32. 494

XXX. On the Coagulation of the Blood in the Venous System during Life. (A Thesis for a Medical Act in the University of Cambridge.) By Geo. Murray Humphry, M. D., F. R. S., etc. etc. Macmillan & Co., Cambridge and London, 1859. 8vo. pp. 42. 497

XXXI. The Action and Sounds of the Heart: a Physiological Essay. By George Britton Halford, M. D., Member of the Royal College of Physicians of London, etc. London: John Churchill, 1860. pp. 47. . . 498

XXXII. 1. Series of Clinical Cases (with Observations) illustrating the Views recently put forward by Dr. Brown-Séquard, as regards certain points connected with the Physiology of the Nervous System. By John W. Ogle, M. D. Oxon, F. R. C. P., Assistant Physician to St. George's Hospital, Secretary to the Pathological Society of London. pp. 15.

2. Cases brought before the Notice of the Pathological Society of London. See Transactions, Vol. X. By Dr. John W. Ogle. pp. 32.

3. The Diaphemetric Compass; an Instrument for measuring the Degree of Discriminative Power, as regards Contactile Impressions, enjoyed by the Skin and Mucous Membranes in certain Affections of the Nervous System. By John W. Ogle, M. D., etc. pp. 11. 499

XXXIII. Phthisis and the Stethoscope, or the Physical Signs of Consumption. By Richard Payne Cotton, M. D., Fellow of the Royal College of Physicians, London, etc. etc. London: John Churchill. Second edition, pp. 80. 502

XXXIV. Lectures on the Diseases of Infancy and Childhood. By Charles West, M. D., Author of "Lectures on the Diseases of Women;" Fellow of the Royal College of Physicians; Examiner in Midwifery at the Royal College of Surgeons of England; Physician to the Hospital for Sick Children; Physician-Accoucheur to, and Lecturer on Midwifery at, St. Bartholomew's Hospital. Third American from the fourth revised and enlarged London edition. Philadelphia: Blanchard & Lea, 1860. 8vo. pp. 630. 502

XXXV. Introductory Lectures, and Addresses on Medical Subjects, delivered chiefly before the Medical Classes of the University of Pennsylvania. By George B. Wood, M. D., LL. D., President of the American Philosophical Society; President of the College of Physicians of Philadelphia; Professor of the Theory and Practice of Medicine, and of Clinical Medicine, in the University of Pennsylvania, etc. 8vo. pp. 460. Philadelphia: J. B. Lippincott & Co., 1859. 503

XXXVI. A System of Dental Surgery. By John Tomes, F. R. S., Dentist to the Dental Hospital of London, and to the Middlesex Hospital. With two hundred and seven illustrations. 8vo. pp. 686. Philadelphia: Lindsay & Blakiston, 1859. 504

ART. PAGE
XXXVII. Therapeutics and Materia Medica. A Systematic Treatise on the Action and Uses of Medicinal Agents, including their Description and History. By Alfred Stillé, M. D., late Professor of the Theory and Practice of Medicine in the Medical Department of Pennsylvania College, &c. &c. Philadelphia: Blanchard & Lea, 1860. In two vols. 8vo. . 505
XXXVIII. Clinical Lectures on the Principles and Practice of Medicine. By John Hughes Bennett, M. D., F. R. S. E., Prof. Inst. of Medicine and Senior Prof. of Clinical Medicine in the University of Edinburgh, &c. &c. From the last Edinburgh edition. With 500 illustrations on wood. New York: Samuel S. & Wm. Wood, 1860. 8vo. pp. 952. 505
XXXIX. Lectures on Surgical Pathology. Delivered at the Royal College of Surgeons of England. By James Paget, F. R. S., &c. Second American edition. Philada.: Lindsay & Blakiston, 1860. 8vo. pp. 699. 505
XL. The Diagnosis, Pathology, and Treatment of the Diseases of the Chest. By W. W. Gerhard, M. D., one of the Physicians to the Pennsylvania Hospital, &c. &c. Fourth edition, revised and enlarged. Philadelphia: J. B. Lippincott & Co., 1860. pp. 448. 506
XLI. A Practical Treatise on Operative Dentistry. By J. Taft, Professor of Operative Dentistry in the Ohio College of Dental Surgery. With eighty illustrations. 8vo. pp. 383. Philadelphia: Lindsay & Blakiston. 506
XLII. Description of a Deformed, Fragmentary Human Skull, found in an Ancient Quarry-Cave at Jerusalem; with an attempt to determine, by its configuration alone, the ethnical type to which it belongs. By J. Aitken Meigs, M. D., Prof. Inst. Med. in Med. Depart. of Pennsylvania College, &c. &c. &c. Philadelphia, 1859. 506

QUARTERLY SUMMARY

OF THE

IMPROVEMENTS AND DISCOVERIES IN THE MEDICAL SCIENCES.

FOREIGN INTELLIGENCE.

Anatomy and Physiology.

PAGE
1. Retrograde course of the Emulgent Veins. By M. Francheschi. 507
2. Researches on the Coagulation of the Blood. By Jos. Lister, Esq. 508
3. Saccharine Function of the Liver. By Dr. George Harley. 510
4. On Nutrition by Blood in Starvation. By M. Auselmier. . 510
5. On the frequent occurrence of Phosphate of Lime in the Crystalline Form in Human Urine. By Arthur Hill Hassall. . . 511

Materia Medica and Pharmacy.

6. On the Chemical Composition and the Medical Employment of the Oils from the Liver of the Cod, the Skate, and the Dog Fish. By M. Dévergie. . . 512
7. Deodorants. By Dr. Thomas Skinner. 514
8. Water-glass, a Partial Substitute for Collodion. By Dr. Kuchenmeister. 517

Medical Pathology and Therapeutics, and Practical Medicine.

PAGE

9. Epidemic of Diphtheria. By Dr. R. W. Crighton. 518
10. On the Epidemic of Variola in the Canton of Geneva in 1858–59. By M. Marc D'Espine. . . 519
11. Epidemic of Variola in Prussia in 1858. 521
12. Variolous Orchitis and Ovaritis. By M. Beraud. . . . 522
13. Dilatation of the Stomach. By M. Rilliet. 523
14. Pathology and Therapeutics of Typhus Fever. By Dr. Joseph Bell. 525
15. Etiology and Treatment of Peritonitis. By Dr. Habershon. . 526
16. The Importance of Free Respiration in Certain States of the Brain. By Mr. Chas. Hunter. . 529
17. On Stertor, and on the Varying Conditions upon which it is Dependent; with the Treatment necessary for its Relief. By Mr. R. L. Bowles. 530

PAGE

18. Sugar in the Urine. By M. Henry Musset. 531
19. Action of Iodide of Potassium on Phthisis. By Dr. R. P. Cotton. 532
20. Treatment of Tetanus by Aconite. By Dr. Leonard W. Sedgwick. 533
21. Chlorine Lotions in Variola. By Dr. Eisenmann. . . . 535
22. Sambucus Nigra in Dropsy. By M. Reyssie. 536
23. Cylindrical Pencils of Tannin in certain affections of the Uterus. By Dr. Becquerel. . . 536
24. Influence of Sex on the Diseases of Children. By R. Kuttner. 536
25. Angina Pharyngea Œdematosa in Children. By Dr. Wertheimer. 537
26. Faradization of the Diaphragm in Asphyxia from Chloroform. By Dr. Friedberg. . . . 537

Surgical Pathology and Therapeutics, and Operative Surgery.

27. Acupressure—A New Method of Arresting Surgical Hemorrhage. By Prof. J. Y. Simpson. 538
28. Non-reducibility of Fractures of the Long Bones. By M. Gosselin. 544
29. Tracheotomy in Croup. By James Spence. 546
30. New method of treating Anthrax. By Dr. T. R. Blackley. . 548
31. Treatment of Cancer by Caustic Potass and Chloride of Zinc. By MM. Salmon and Maunoury. 549
32. Employment of Iodide of Potassium in the Treatment of Aneurisms. By Prof. Bouillaud. 549
33. Treatment of Gonorrhœa and Gleet without Copaiba. By Mr. Weeden Cooke. 550
34. Treatment of Blennorrhagia by Vinum Colchici and Tincture of Opium. By Dr. Eisenmann. . 551
35. Falls from Great Heights followed by very Slight Injury. By Mr. George Mallett. . . . 552

Ophthalmology.

36. Antiphlogistic Powers of Morphia. By Dr. Z. Laurence. . 553
37. Conical Cornea and its Treatment by Operation. By Mr. Bowman. 554
38. Voluntary Power of using Horner's Muscle (Tensor Tarsi). By Dr. Jago. 557

Midwifery.

39. Difficulty of Delivery in Rupture of the Uterus. By Dr. J. H. Avelung. 558
40. On the Pathology and Treatment of Placenta Prævia. By Dr. A. S. Donkin. . . . 561
41. On the Harmlessness and Spontaneous Cure of certain Uterine Polypi. By M. Velpeau. . . 562

Medical Jurisprudence and Toxicology.

42. Cases of Sudden Delivery. By M. Ameuille. . . . . PAGE 563

43. Poisoning by Arsenic. By Dr. Blondlot. . . . . PAGE 564

Miscellaneous.

44. University of London. New regulations creating two degrees: one of Bachelor and the other of Doctor of Science. Letter from Wm. B. Carpenter, M. D. 564

AMERICAN INTELLIGENCE.

Original Communications.

Singular Anomaly of Conformation in a Lung. By John H. Packard, M. D. 565

Counter-extension in Fractures of the Femur. By H. Lennox Hodge, M. D. 565

Foreign Body in the Nose; Novel Plan of Removal. By W. S. King, M. D. 567

Ovarian Dropsy—Ovariotomy. By Dr. B. Roemer. 567

Fatal Hæmatemesis in Cancer of the Liver with Biliary Calculus. By James Corse, M. D. . . 569

American Surgeons in the Russian Army in the Crimea; Prevalence of Typhus Fever and Hospital Gangrene in the Russian Hospitals; Creasote as an application to Gangrenous Stumps. By C. R. Parke, M. D. . . . 570

Dr. Gott's Case of Excision of the Right Superior Maxilla and a Portion of the Left. . . 572

Correction. By E. S. Cooper. . 572

Domestic Summary.

Aneurism of the Ischiatic Artery; Ligature of this Vessel, and subsequently of the Primitive Iliac Artery. By Prof. L. A. Dugas. 572

Ligation of both common Carotid Arteries, at an interval of seventeen days, for Epilepsy. By Dr. Gustav C. E. Weber. . . 574

Ligature of the Femoral Artery for the Cure of Elephantiasis of the Leg and Foot. By Dr. T. L. Ogier. 575

Ligature of the Subclavian. By Dr. Shrady. 575

Tracheotomy in Croup. By Dr. Voss. 575

Ovariotomy in Ohio. By Prof. J. W. Hamilton. 575

Fracture at the Base of the Cranium; Discharge of Blood and Brain from the External Ear; Recovery. By Dr. Lockwood. . 575

Penetrating Wound of the Brain. By Mr. G. Devron. . . 575

Turpentine in Stomatitis Materna. By Dr. D. S. Brandon. . . 576

Labour, with the Hymen Unbroken. By Dr. John Yale. . . . 576

THE

AMERICAN JOURNAL

OF THE MEDICAL SCIENCES

FOR APRIL 1860.

ART. I.—*A Brief Account of the Pennsylvania Hospital for the Insane, at Philadelphia; with a Description of its New Buildings.* By THOMAS S. KIRKBRIDE, M. D., Physician to the Institution. (With two plates.)

AN entirely new building containing, with the conveniences and comforts which have been tested by experience, much that is novel in character, having been completed during the past year, and added to the accommodations previously possessed by the Pennsylvania Hospital for the Insane, a brief sketch of its history and of its present condition and arrangements can hardly fail to be interesting, not only to those who have so generously contributed to the work, but especially to the medical profession and all others who feel an interest in public institutions devoted to the relief of human suffering.

The original Pennsylvania Hospital, of which this is a branch, was established as early as the year 1751, and was the first institution in America in which special provision was made for the care and treatment of the insane. Although in its early days it received some assistance from the colonial and State governments towards the erection of the original buildings, its main dependence has always been upon the contributions of benevolent individuals. It has always had two departments, one for the sick and cases of accidental injury, and the other for the insane. That for the sick continues to occupy the original site, on the square between Spruce and Pine and Eighth and Ninth streets, in the city of Philadelphia, and is every year widely diffusing its benefits throughout the community. Into this building the insane, too, were received till the first day of the year 1841, at which date an entirely new structure, called the "Pennsylvania Hospital for the Insane," was opened for the reception of patients, and

since that period no cases of insanity have been admitted into the building first referred to. This new hospital was located on a fine farm of 113 acres of land, two miles west of the river Schuylkill, between the West Chester and Haverford roads (now Market and Haverford streets), on the latter of which is its gate of entrance. The new establishment and the land on which is stands was provided entirely from the proceeds of sales of certain vacant lots surrounding the old building, which had never yielded any revenue to the hospital, and which originally had cost the institution but about $10,000. Beginning with 93 patients, received from the parent institution, the number gradually increased, till, by the year 1853, every room was occupied, and from that time forward, even with almost constantly crowded wards, it became necessary to decline many cases that sought admission to the hospital. Under these circumstances, it was obvious that new accommodations must be provided, or the institution could not maintain its high character, nor our own citizens find, within the commonwealth, adequate means for the treatment of the cases of insanity which were of such frequent occurrence. Believing that this institution possessed peculiar advantages for providing these additional accommodations, and that the experience which had here been derived from a careful study of the disease and a familiarity with the requirements of establishments for its treatment, could be made available in the erection of a new structure, it was suggested in the annual report for the year 1853, "that a new hospital, replete with every modern discovery and all the improvements suggested by a large experience, and capable of accommodating 200 male patients, should be erected on the 70 acres of land now comprising the farm of the institution, and directly west of its present inclosed pleasure grounds; while the present buildings, with everything included within its external wall, should be given up for the exclusive use of a similar number of females." These suggestions were at once approved by the Board of Managers, and subsequently with entire unanimity by the contributors at their annual meeting in the year 1854. An appeal to the public for contributions to this object was soon after issued, a collecting committee appointed, and the result of their labours has been the erection, from this source alone, of an entirely new edifice, capable of accommodating in a very superior manner 250 patients, with ample apartments for officers, attendants, and others employed, and with every arrangement which seemed likely to promote the comfort and restoration of the sick, and the efficiency, usefulness, and economical management of the institution.

The Pennsylvania Hospital for the Insane, therefore, as now constituted, consists of two distinct buildings, each complete in itself, having separate pleasure grounds and inclosures, both situated, however, on the same tract of 113 acres of land originally purchased by the institution. The hospital just completed is styled "the department for males," and that which has been in use during the last nineteen years "the department for females."

Both departments remain as heretofore under the charge of a physician in chief, having as associate officers one or more assistant physicians, a steward, and a matron in each building.

The building now known as "the department for females," and the various improvements which from year to year have been added to the original structure, have been fully described in the eighteen annual reports which have been published. The character of the repairs and alterations now in progress, and which will tend to add greatly to the cheerfulness and completeness of its arrangements and the comfort of the patients, may be referred to in detail on some future occasion. It is intended to facilitate communication between the two buildings by means of the telegraph, and one of our citizens has offered a liberal contribution towards putting a wire suspension bridge over the meadow which separates the two pleasure grounds.

From the opening of the Pennsylvania Hospital to the year 1841, when it ceased to receive cases of insanity (a period of 89 years), 4366 insane patients were admitted. Of these 1493 were cured, 913 discharged improved, 995 were removed by their friends without material improvement, 246 eloped, 610 died, 93 were transferred to the new building, and 16 retained at the date referred to.

In the nineteen years that the "Pennsylvania Hospital for the Insane" has been in operation, 3360 patients have been admitted, and of these 1656 have been discharged cured, 766 in various states of improvement, 312 as stationary, 363 died, and 254 remain under care.

The first stone of the new hospital, "the department for males," was laid on the 7th of July, 1856, and it was opened for the reception of patients on the 27th of October, 1859. It is situated in full view, and on the western side of the building previously in use, at a distance in a right line of 648 yards, and in the midst of fifty acres of pleasure grounds and gardens, the whole of which are surrounded by a substantial stone wall, covered with flagging, and of an average height of ten and a half feet. The gate of entrance is on Forty-ninth Street (an avenue intended to be 100 feet wide), between Market and Haverford streets, and by each of which, by means of horse railroads, easy access to Forty-ninth Street can be had at all seasons.

This new hospital faces the west, and consists of a centre building, with wings running north and south, making a front of 512 feet—of other wings, connected with each of those just referred to, running east a distance of 167 feet, all three stories high, and these last having at their extreme ends communications with extensive one storied buildings. All the exterior walls are of stone, stuccoed, and the interior of brick.

This arrangement gives provision for the accommodation of sixteen distinct classes of male patients in the new building, as the same number of classes of females are now provided for in that previously in use. Each

one of these sixteen wards has connected with it, besides the corridors for promenading and the chambers of the patients and attendants, a parlor, a dining-room, a bath-room, a water-closet, a urinal, a sink-room, a wash-room, a drying-closet, a storeroom for brushes and buckets, a clothes-room, a dumb-waiter, a dust-flue, and a stairway passing out of doors, if desired, without communication with the other wards; and every room in the building, almost without exception, has a flue communicating with the fresh air-duct, for warm or cool air, according to the season (and hereafter to be referred to), and with the main ventilating trunks which terminate in the various ventilators on the roof of the building.

The centre building is 115 by 73 feet. It has a handsome Doric portico of granite, in front, and is surmounted by a dome of good proportions, in which are placed the iron tanks from which the whole building is supplied with water. The lantern on the dome is 119 feet from the pavement, and from it is a beautiful panoramic view of the fertile and highly improved surrounding country, the Delaware and Schuylkill rivers, and the city of Philadelphia, with its many prominent objects of interest. In the basement or first story of the centre building is the main kitchen, 42 by 24 feet, in which are improved arrangements for cooking: a scullery, 24 by 11; two storerooms, each about 20 by 22 feet; a trunk-room, 24 by 11 feet; a general clothes-room, a bread-room, a dining-room for the officers, another for the domestics, a lodging-room for the seamstress, another for the supervisor of the basement, a stairway to the main story, and a dumb-waiter leading from the kitchen to the cellar, and another to the upper rooms of the centre building. The cellars under the centre building, besides containing the hot air-chambers for that division of the house, have three distinct rooms for storage, which are ventilated by means of flues leading out through the roof of the house. In front of the basement, and under the steps and adjoining roadway, are the vaults for coal for the kitchen and bakeroom, and the ice-house, the latter being ventilated as mentioned for the cellars, and carts unload into both, through openings in the blue stone flagging, which forms the roadway upon the arches below. Adjoining the ice-house is a small apartment, with stone shelves for keeping food cool in summer; and along side of the coal-vault is a space for the offal from the kitchen. There is also a small kitchen near the scullery, and intended for the superintendent's family, whenever it is required for the purpose. In one of the storerooms is a dark apartment, and in another the tanks for the oxygen and hydrogen gases used for the dissolving apparatus.

On the second or principal story is the lecture-room, 42 by 24 feet, in the lecturer's table of which, water, steam, and gas, for experimental purposes, have been introduced. It also contains commodious cases for apparatus, a black board running on a track behind the cases, and a smooth surface, 24 by 18 feet, at its eastern end, on which the dissolving views are shown. On the opposite side of the main corridor is a reception room for

visitors, and a room for visits to patients by their friends, each being 24 by 23 feet. There are also on this floor two small rooms for more private visits, the medical office and library, which is also the assistant physician's office, 24 by 14 feet, with a small storeroom, containing a sink, &c., adjoining; the lodging-room for the assistant physician having charge of the medical office, with which it communicates; a general business office, which is also that of the steward, 24 by 20 feet; a manager's room, 24 by 19 feet, which is also the principal physician's private office; a parlor, 24 by 19 feet, for the use of the officers of the house; and a fire-proof, 11 by 9 feet, in connection with the general business office. In the third story front are four fine rooms, each 24 by 21 feet; a corridor, 42 by 16 feet, shut off from the adjoining portion by a ground glass partition; a bath-room, water-closet, and clothes-closets, intended at some future day for the use of the family of the superintending physician, whenever such an officer may be specially connected with that department. There are also on this floor chambers for the steward and matron, for the senior assistant physician, three others that may be used as deemed expedient, and a room, 24 by 11 feet, lighted from the roof, and intended for a general storeroom for the bedding and other dry goods not actually in use.

The corridors of the centre building, running east and west, are sixteen feet wide; those running north and south, in which are the stairways, lighted from the roof, are twelve feet wide.

The height of the ceiling of the basement in the centre building and of all parts of the wings and one storied buildings, except the upper story of the wings, which is one foot more, is twelve feet. The ceilings in the second or principal, and in the third story of the centre, are eighteen feet high.

The wings on each side of the centre building are almost exactly alike, except that on the south side in front, in the basement immediately adjoining the centre, is the ironing-room, 28 by 11 feet, with a drying-closet, 11 by 11 feet, attached, and in the rear the small kitchen already referred to, and the lodging-rooms of the female domestics; while on the north side, in corresponding positions, are the bake-room, the baker's store and lodging-rooms, and the lodging-rooms of the hired men, not employed in the wards. On this floor, on each side of the centre, is also a museum and reading-room, 42 by 14 feet, and accessible either from the grounds or from the inside of the building, two work-rooms for the patients, two lodging-rooms for persons employed in the work-rooms, a bath-room for the officers and another for the domestics, two water-closets, &c. The portion of the wing just described is shut off from the adjoining part (which constitutes the fifth ward) by a thick ground glass partition; this ward having in it a large room, 29 by 24 feet, with a bath-tub and water-closet in a recess; another, 24 by 14 feet; a third, 23 by 11 feet; and five rooms, 11 by 9 feet; a bath-room, drying-closet, and all the other conveniences already mentioned as forming a part of each ward. These apartments and arrangements are

intended for patients who are particularly ill, and who require special quiet and seclusion, where they may be visited, if deemed expedient, by their friends, without annoyance to others, or interfering with the discipline of the house.

Besides the fifth ward, just described, and which is on the first floor, there are on each side of the centre two other stories, each of which constitutes a ward, and with all the conveniences already referred to. The rooms are arranged on both sides of the corridors, which are twelve feet wide, and have their extreme ends mostly filled with glass; while, wherever one wing joins another, there is entirely across it an open space for light and air, eight feet wide, glazed with small sash from near the floor to the ceiling; and in the middle of each ward, on one side, is a similar open space, all of which may be used for keeping flowering plants, birds, &c., for having small jets of water or any other object of interest, and which, in excited wards, may be guarded by ornamental wire-work. Each story of the return wing makes a ward, similar to those just described.

Passing from the return wings into the supervisor's office, the one storied buildings are reached. Each of these has provision for 26 patients and six attendants, and every arrangement for their comfort. The rooms are here on one side of a corridor ten feet wide, and at the end of each of those running towards the east is a cross hall, in which are three rooms intended particularly for patients who from any cause may require special seclusion. One of the main halls is used for dining, and the other as a sitting-room. Between the dining halls of these two wards (the seventh and eighth), and made private by sliding doors, are four rooms intended for excited patients, who have special attendants. Opposite these last is a room, 110 by 14 feet, with an arched ceiling 15 feet high, with skylights and windows out of reach, intended to be used as a kind of gymnasium, and accessible either from the adjacent garden and yards, or directly from the wards; and in the story below this is a room of the same size, in which are two fine bowling alleys, with reading tables, &c. Both these rooms may be well lighted with gas, and warmed by steam-pipe, so that they can be comfortably used in the evening as well as by day, and in all kinds of weather.

The arrangement of these one storied buildings makes for each two very pleasant yards, in size 110 by 54 feet, surrounded by broad brick pavements, and having grass in the centre, with an open iron palisade in front, giving a distinct though sufficiently distant view of two of the most travelled roads in the vicinity. There is also a yard, 343 by 72 feet, adjoining each sixth ward, fitted up as the others, and planted with shade trees. Brick pavements also surround the entire building, making, with those just referred to, and those in front, a continuous walk of 6,152 feet.

Entrance.—The entrance to "the department for males," as before mentioned, is from Forty-ninth Street, between Market and Haverford streets. The gatekeeper's lodge has two comfortable rooms on the north,

while on the opposite side of the gateway is a dead-room, and another for tools used about the grounds. Brick paths on either side of the main roadway lead to the centre building, and the space in front, planted with evergreen and ornamental trees, and having a fountain in the central grass-plat, is 325 by 175 feet. From the front platform eight steps lead up to the vestibule, and seven steps inside of the building, to the level of the principal floor. Visitors passing into the centre building may go out upon a pleasant balcony on its eastern side, and overlook the improvements in that direction, but they cannot pass through the grounds.

Ten steps descend from the roadway to the pavement around the basement, which, except immediately at the front of the centre, where it is surrounded by a wide area, with sodded banks, is everywhere above ground.

There is also a gate on Market Street, near the engine-house, used for bringing in coal or other heavy articles, and another on the eastern side of the grounds, for the use of the officers of the hospital only.

Engine-House and Laundry.—The engine-house, 71 feet from the nearest point of the hospital building, is a substantial stone structure, 70 by 64 feet, and two stories in height. The character of the ground is such that carts drive into the second story to discharge the coal directly into the vaults below, and the level of the railroad in the cellar of the hospital brings it upon the second floor of the engine-house.

The first story, on the level of the ground on its southern and eastern side, contains vaults capable of containing near 500 tons of coal. Adjoining these vaults is the boiler-room, 30 by 17 feet, and opening into the engineer's work-room, in which will be placed lathes, grindstones, pipe cutting machines, &c., driven by the engines which are in the engine-room, 23 by 19 feet in size, and separated from the last by a glass partition; while further west, also separated by glazed windows and doors, is the fan-room and the tower for supplying fresh air to the main duct, which leads from it, through the entire building. The height of ceiling in this story is 17 feet, and it is arched over the engine-room and the engineer's work-room, so as to give a proper support to the stone floor of the room above. In the second story of this building, into which the railroad passes, is the wash-room, 27 by 24 feet; the room for assorting and folding clothes, 24 by 14 feet; the mangle-room, 43 by 8½ feet; the drying-closet, occupying a space 26 by 13 feet; a water closet; and a large room over the coal-vaults and boilers, surrounded by movable blinds, and intended for drying clothes without the use of artificial heat, for making soap, &c.

The Carpenter Shop, 36 by 20 feet, is of frame, two stories high, and 45 feet from the engine-house, from which steam may be taken for warming it in winter. It has two rooms below, and a single large one above.

The Carriage-House and Stables make a neat stone structure, 57 by 36 feet, and two stories high. It has accommodations for six horses and as many cows, and the carriages required for the different purposes of the

institution. The lower floor is of cement, brick, or blue stone. The piggery is in the yard in the rear of the stables, and there is a carriage-yard in front, both being surrounded by a stone wall.

Size of Rooms.—The height of the ceilings throughout the building, and the size of the parlors and of all the rooms in the centre building, have been already given. The ordinary size of patients' lodging-rooms is 9 by 11 feet, while there are some in each ward of a much larger size, many of which have communicating doors, and are intended for patients who desire a parlor as well as a chamber, or for those having special attendants. The parlors in the first and third wards are 33 by 24 feet, and in the second, fourth, and sixth they are 23 by 30 feet. The dining-rooms are generally 23 by 17 feet. The bath-rooms are mostly 9 by 11 feet. Sixteen rooms in each one storied building have water-closets in them, firmly secured, and with a strong downward draught. The sides of doors and windows in patients' rooms are generally rounded, by being built of brick made expressly for the purpose, and smoothly plastered.

Windows and Window Guards.—The windows in patients' rooms are almost universally 6 feet by 2 feet 9 inches, having twenty lights of glass, 6 by 17 inches, in each sash. In the front wings adjoining the centre, and in the third story of the return wings, both sash are of cast-iron, secured in wooden frames, so arranged as to balance each other, rising and falling only to the extent of five and a half inches, and doing away with the necessity for guards. In the other parts of the return wings, and in the one storied buildings, the windows are of the same size, have the upper sash of cast-iron, and immovable, the lower being of wood, rising to its full extent, and protected by an ornamental wrought-iron guard, securely fastened on the outside. A few rooms in each one story building have small windows out of reach of their occupants, and intended for the temporary seclusion of very violent or mischievous patients. In other parts, as well as in this, wire screens inside of the rooms are occasionally used to protect glass, and ornamental wire-work is adopted in some of the parlors, at the ends of corridors, and in other similar positions, as a guard outside of the windows.

Doors.—The doors throughout are made of the best white pine lumber. In the wards they are $1\frac{3}{4}$ inches thick, 6 feet 8 inches high by 2 feet 7 inches wide. Each door has eight panels in it, one of which makes a hinged wicket, and what is commonly known as bead and butt, very substantially put together, and wherever special strength is required it is obtained by transverse pieces of iron let into the wood, or by plates of boiler-iron screwed on, and painted so as to resemble an ordinary door. Each door has a good deadlock to it, and occasionally a mortise-bolt is added. Over each door is an unglazed sash, 31 by 17 inches, covered with fine wire on the inside, or a space 31 by 5 inches, which can be filled up at pleasure by a tight board

or by wire. Lift hinges have been used for all these doors, which for patients' lodging-rooms always open into the corridors.

Floors.—The floors throughout are of the best yellow pine, cut to order in Florida, and piled up on the grounds two years before it was used. The boards are one inch and a quarter thick, varying in width from two and a quarter to four inches, and put down with secret nailing. Counter-ceiling is everywhere used. The only exception to this kind of flooring is in the two kitchens, the scullery, a space in the basement hall in front, the bake-room, all the sink, water-closet, and wash-rooms, the line between different wards, the entrance to the stairways, and the main wash-room in the engine-house, which are of brown German flagstones, laid on brick arches; the engineer's work-room, which is paved with brick; the front of the boiler-room, which is of iron and blue stone flagging; and the engine-room, one sink-room, and all the ward stairways, which are of slate, admirably adapted to such a purpose, and from the quarries of Eleazer, Jones & Co., at East Granville, N. Y., and which has also been used extensively for window-sills, stairways, and other purposes.

Stairways.—All the stairways in those parts of the building occupied by patients are fire-proof. The framework is of cast-iron, built into the brickwork on each side, and covered with slate, which has many advantages. The rise of these steps is only seven inches; there are platforms every five or six steps, with convenient handrails on both sides, from top to bottom. They are all well lighted by windows by day and by gas at night. The well around which the stairs wind is used for hat or coat-rooms, for the different stories.

Plastering.—The inside plastering is what is called hard finish, composed of lime and sand, without plaster of Paris, except for ceilings, and well trowelled. This finish admits of being scrubbed for years without injury, and is at all times ready for painting. The outside of the building is rough-cast, the material used being the pulverized stone of which the house is built and lime, to which an agreeable shade of colour is given by a sand obtained in Montgomery County. Hydraulic cement is used near the ground in certain positions, in many of the sink and wash-rooms, in the kitchen and scullery, in the main wash-room, and as a substitute for the ordinary wash-boards in many of the ward corridors and patients' chambers.

Roofing.—The roof is of Pennsylvania slate, fastened on lath, and plastered with hair mortar on the under and upper edges and on the joints of the slate. The pitch is one-fourth of the span. The water from the roof is carried off, through four inch cast-iron pipes inside of the building, and easily accessible, into large drains leading into the main culvert.

Sewerage.—The main culvert is 2,032 feet in length. It is 35 inches from top to bottom in the clear, built of brick laid in hydraulic cement, egg-shaped, the smaller part being at the bottom. Beginning near the intersec-

tion of the north return wing and one storied buildings, at which point it receives various pipes from the adjacent wards, it passes under the main chimney, by the engine-house and barn, and extends to Mill Creek, into which it discharges just before it reaches Market Street. Through this culvert all the drainage from the building and much of the grounds is carried off, being intersected by branch culverts at various points in its course.

Bath-rooms, Water-closets, &c.—There are twenty-one bath-rooms and as many water-closets in the building. Sixteen are in the wards. Each bath-room has in it a cast-iron bath-tub, covered with zinc paint, and with improved arrangements for the admission and discharge of water through the bottom. In addition to the ordinary hot air flue, there is a coil of steam-pipe for direct radiation in each, so that when hot baths are used the temperature of the room may be made so high as to prevent the sensation of chilliness, when coming from the water. The water-pipes in these rooms are generally of galvanized iron, left exposed so as to be readily accessible, and passing from story to story, through castings made for the purpose, so that in case of leakage the ceilings may not be injured.

The water-closets are of cast-iron enamelled, have no traps, but are open so as to have a constant downward draft of air through them into the main chimney, as have all the sinks, bath-tubs, &c., in the whole establishment. The water is let on by the opening of the door.

The wash-basins in the wash-rooms are of marble, with strong swing-cocks. The sinks are of cast-iron, and have hot and cold water at each. There is also an iron hopper to each, and into which the slops, &c., are emptied. There are permanent fixtures for securing the towels in each wash-room. The drying-closets are sufficiently large to contain a bed, and, like the closets for buckets, &c., have flues leading into and from them, and thus secure a direct communication with the fan below and the ventilating ducts above. All these arrangements in each ward are clustered together, and have scarcely any wood in any part to absorb moisture or retain unpleasant odours.

Supply of Water.—The new hospital is supplied with water from a well 25 feet in diameter, containing 50,000 gallons, and into which, as measured at the dryest period of the last year, is a daily flow of 30,000 gallons of excellent water. There is also a constant small stream of spring-water passing near the well, which can at any time be turned into it. By means of one of Worthington's combined direct acting steam-pumps, capable of raising 10,000 gallons per hour, this water is forced through 708 feet of six inch cast-iron pipe into the four boiler iron tanks in the dome, and from which it is distributed through the entire building. These tanks are 103 feet above the well, and contain 21,000 gallons. They are so arranged that one or all may be used at pleasure, have overflows, and pipes through which they may have the sediment washed out whenever deemed

desirable. The elevation of these tanks is sufficient to secure the feeding of the steam-boilers when carrying a pressure of forty pounds to the inch. These tanks were made at the works, and put in place before the roof was on the building. It is intended that they shall always be about full of water, and a small pipe leading from them to the engine-house tells the engineer on duty when that is the case. There is also in the engine-room a single Worthington steam-pump, capable of raising 5000 gallons per hour, and intended to prevent any possible deficiency of water, should an accident happen to the larger engine. The rule is that both should be used some part of every day, so that in case of emergency there may never be a doubt of their being in working order.

The tank for supplying the centre building with hot water is 12 feet in length and 23 inches in diameter, and is placed above the cooking-range, the heat being supplied through circulating pipe from a water back behind one of the range fires, and is abundant for all purposes. The supply of hot water for the wards is derived from six iron tanks, placed in the most convenient points in the cellar, in which situations they are easily accessible, and leakages can do little injury to the building. The heat is derived from steam coils coming from the summer pipe (as it is called) used for cooking and all other purposes, except warming the building. The large steam-boilers at the engine-house are supplied with hot water by the condensed steam used in heating, which ordinarily returns to them by gravity, but when it does not, is received into an iron tank and forced into them by a small steam-pump. The laundry has hot water from a large tank placed in the oven which covers the boilers, and through which the exhaust steam from the engines and pumps can be made to pass whenever desired, and which may also be used for feeding the large boilers. There are three wells of excellent water besides at convenient points near the building, and which supplied all the water required in its erection. A fourth is now being sunk near the stables.

Lighting.—The hospital is lighted by gas from the city works, on the eastern side of the river Schuylkill. The fine meter, from Code, Hopper & Gratz, is placed in the engine-room, and a record is made every morning of the consumption during the preceding night. Stopcocks are placed at convenient points for checking the flow of gas through the main pipes, and the ordinary kinds of fixtures have been adopted throughout the building. The gas is also used for experimental purposes in the lecture-room, and for boiling water, &c., in the medical office.

Furniture.—The furniture is intended to be neat and plain, but of a comfortable and substantial character, the amount in the various apartments being in a great measure dependent on the character of the patients occupying them. Carpets of some kind generally cover the parlors, and some portions of the corridors and chambers. Wardrobes, tables, mirrors, and other conveniences are frequently added to the bedsteads, which last are of

various kinds, mostly of wood, but many are of wrought or cast-iron, painted of a light colour, a few of which last are secured to the floor.

Heating and Ventilation.—There is no fire used in any part of the hospital for heating, although provision for open fires has been made in all the parlors and in many of the other large rooms, should such an arrangement ever be deemed desirable. The only fires kept up in the building are those in the kitchens, bake and ironing-rooms.

In the boiler-room at the engine-house there are three large tubular boilers. Each of these has a furnace 5 feet 3 inches wide by 5 feet 3 inches long, and 7 feet 4 inches high. The shell is 17 feet 8 inches long by 4 feet 6 inches in diameter. Combustion chamber 4 feet long, and 98 tubes $2\frac{1}{2}$ inches in diameter and 11 feet long. The total heating surface for each is 744 square feet. The grate surface is $20\frac{1}{4}$ square feet. The escaping gases enter a common flue, and the draft can be regulated by a damper at the back end of each boiler, or the supply of air graduated by a register in the ash-pit door.

These boilers furnish steam for warming the entire hospital, and for driving all the machinery, pumping water, for ventilation, washing, cooking, &c. They are so arranged that one or all may be used at pleasure, either for heating or driving the machinery. The steam is carried from them in a five inch welded iron pipe, and after reaching the hospital building, it is distributed in eighty-three air-chambers, placed in its cellar, with direct flues leading from them to the apartments above. The gases from the boiler fires pass through an underground flue, four feet wide and six feet high, a distance of 557 feet, rising 31 feet in its course, till it comes to the foot of the main chimney, which is 78 feet above the surface of the ground. The chimney is built double, the interior being round, formed of hard brick, without parging, six feet in diameter in the clear from bottom to top, the latter being formed of cast-iron, while the foundation is of pointed stonework to a height of eleven feet, and the remainder of pressed brick. The underground flue alluded to contains the main steampipe until it reaches the nearest point of the building, and also that portion of it which is carried to the north section of the hospital, and is immediately over the main culvert.

This chimney is made the ventilating power for securing a strong downward draft of air through all the water-closets, urinals, sinks, and bath-tubs in the entire establishment, and for this reason is placed in a central position on the eastern side of the building. The coils for heating are composed of welded iron pipes, three-quarters or one inch in diameter, and are in two sections in all the air-chambers, so that one or both may be used, according to the severity of the weather.

In the engine-room are two horizontal high pressure steam-engines, of fine finish, from the works of I. P. Morris & Co. They are exactly alike, each having a cylinder 10 inches in diameter, and a stroke of 24 inches. They are so arranged that either may be substituted for the other, and one

may be made to do the work of both in case of emergency. Ordinarily one drives the fan, and is therefore a part of the ventilating apparatus, while the second drives all the other machinery. The fan, made by Wm. Sellers & Co., is of cast-iron, its extreme diameter being 16 feet, and its greatest width 4 feet. It is driven directly from the shaft of the engine, and its revolutions vary from 30 to 60 per minute, according to the requirements of the house. The fresh air is received from a tower, 40 feet high, so that all surface exhalations are avoided, and is then driven through a duct, which at its commencement is $8\frac{1}{2}$ by $10\frac{1}{2}$ feet, into the extreme parts of the building. From the cold air-duct, openings lead into the different warm air-chambers, which in the one storied buildings are covered with slate; but in all other parts of the hospital these chambers and air-ducts are arched with brick, laid with smooth joints. The warm air in nearly all cases is admitted near the floor, and the ventilators open near the ceiling, always in the interior walls. The only exception to this arrangement is in the one storied buildings, in which, in the patients' rooms, the warm air is admitted above, and the ventilators are taken off near the floor. All the ventilating flues terminate in the attic in close ducts, either of brick or wood, smoothly plastered, increasing in size about thirty per cent. more rapidly than the capacity of the flues entering them, and by which, through the different belvederes on the roof, they communicate with the external atmosphere. In the centre building the ventilation is through the main dome.

All the pipe used for heating and water, the bath fixtures and water closets, were made at the works of Morris, Tasker & Co.—and the entire apparatus was arranged and put up by the institution, under the direction of its building superintendent. There is no leaden pipe used in the building.

Cooking and Distribution of Food.—All the cooking is done in the central kitchen, which has in it a large range, with two fires and three ovens, a rotary roaster, a double iron steamer containing ninety gallons, a smaller one, iron outside and copper-tinned on the inside, containing forty-five gallons, and six of tin for vegetables, besides the vessels for tea and coffee. The food prepared in this room is put into closed tin boxes, which are lowered by a dumb-waiter to the car standing on the track of the railroad, where it passes under the kitchen, and is thus conveyed to the bottom of the various dumb-waiters, which lead directly to the different dining-rooms above, of which, as before remarked, there is one for each ward. Each dining-room has a steam-table, with carving dishes on it, and abundant provision for keeping meats and vegetables warm as long as may be desired. The dumb-waiters are all controlled by the person having charge of the railroad; they are moved by a crank and wheel, and wire-rope is substituted for that commonly adopted.

The railroad is an indispensable part of the arrangements for distributing food. By its use a meal may be delivered in all the ward dining-rooms (eight

in number) on one side—the extreme ones being 580 feet distant—in ten minutes after leaving the kitchen, or for the whole sixteen in twenty minutes. It also forms a very convenient mode of transporting articles from one section of the building to another, carrying clothing to and from the laundry, and gives a protected passage-way in going from the centre building to the engine-house, barn, and workshop, and for persons visiting their friends in the room set apart for the purpose between the sixth and seventh wards.

Provision against Fire.—As already mentioned, no fires are required in the building for warming it, and gas is used for lighting. Wherever one wing comes in contact with another, or with the centre building, all the openings in the walls, which extend up through the slate roof, have iron doors in addition to the ordinary wooden ones, and which may be closed at pleasure. The floors of the kitchens and bakeroom, in which alone fire is used, are of German flagstone laid on brick arches, and all the stairways in the wings are fire-proof. It is intended that there should always be about 20,000 gallons of water in the tanks in the dome of the centre building, and 15,000 gallons per hour may be placed there by the pumping-engines. A standpipe connected with this reservoir passes into every story and into every ward, in all of which it is intended to have a piece of hempen hose constantly attached, so that by simply turning a stopcock, water may be put on a fire almost as soon as discovered. A steam-pipe also passes up into the attic of each wing, and as one of the large boilers is constantly fired up, steam may at any moment be let into the building by simply turning a valve in the cellar. Hose is also kept near the steam-pumps, so that it may be promptly attached, and water thrown on the barn, carpenter shop, engine-house, and contiguous parts of the hospital. A watchman is constantly passing through the house at night, and by means of two of Harris' watch-clocks, as made by H. B. Ames, of New York, there is no difficulty in ascertaining, not only how often each ward is visited, but almost the moment the visit was made, and of course the time taken in passing from one ward to another.

Laundry Arrangements.—The clothing, bedding, &c., collected in the different wards, after being sent to the cellar, are conveyed from that point by the railroad to the room for assorting clothes in the engine-house, and thence into the large wash-room, in which, besides the usual washing, rinsing, and blue tubs and soap vat, is one of the valuable Shaker washing-machines, in which six different kinds of clothes can be washed at the same time, and a centrifugal wringer, both of which are driven by one of the steam-engines. From the wringer the washed articles are taken to the drying-closet, in which, by means of the heat derived from the exhaust steam from the engines passing through a large amount of cast-iron pipe, and fresh air from the fan, they are in a very few minutes made ready for the mangle (also driven by steam power), or folded and taken by the rail-

road to the ironing-room near the centre building, to which they are raised by the dumb-waiter already referred to, or are sent directly to the principal clothes-room, from which they are distributed by the same route, as they may be required in the wards. All the divisions of the washing-machine, of the rinsing and washing-tubs, have hot and cold water and steam introduced directly into them, and the water from them all is carried off under the stone floor of the room to one of the iron columns below, through which it passes into the culvert on the outside of the building.

Pleasure Grounds, Gardens, and Yards.—This new hospital is situated in the midst of its pleasure grounds, embracing about fifty acres, and from most parts of which are fine views of the surrounding country; the boundary wall being so arranged, from the natural character of the ground, or made so by excavations, that little of it can be seen from any part of the building that is occupied by patients. There are two pleasant groves of natural forest trees within the inclosure, and several hundred others, evergreen and deciduous, that have already been planted or collected for the purpose, will give an ample amount of shaded drives and walks. A carriage-road has already been made on the inside of the wall, throughout its extent, and winding by the gardens and terraces around the buildings, will ultimately be two miles long. The foot-walks are not to be less extensive, and the brick pavements about the building have been already mentioned. There are also, as may be remembered, three pleasant yards on each side of the building, and connected directly with the adjacent wards.

The vegetable garden will contain about eight acres, and is in full view from the north side of the building. Flower borders have been made near to and around the entire structure. The only fences inside of the inclosure are to give privacy to the patients in the yards, or to prevent those walking about the grounds from approaching certain parts of the building.

Means of Occupation and Amusement.—As the pecuniary means of an institution are enlarged, so, under a judicious administration, may be, almost indefinitely, the modes of giving patients useful employment, and ministering to their instruction and amusement. A brief recapitulation of what are here recognized and used, may not be inappropriate in this connection.

Beginning with moderate and regulated labour in the open air, in assisting to cultivate the farm and garden and to keep the grounds in order, may be added the cultivation of plants and flowers, employment in the workshop, carpentering, joining, mattress-making, broom-making, or any other mechanical occupation to which the patients may be accustomed, and which is suitable for them. Walking in the open air, inside or outside of the inclosure, as all not too ill are expected to do at least twice every day of the week in all pleasant weather; the green-house; visits to objects of interest in the vicinity; riding in the neighbourhood in carriages kept for the purpose, or hired specially, or within the inclosure in the poney phaeton, or wagons driven by the patients or attendants, and occasionally

on horseback; excursions through the city of Philadelphia or its vicinity on the numerous horse railroads, or extended to a much greater distance by cars or steamboats; the museums and reading-rooms (two for each building), with their collections of books, pictures, and curiosities; a general library, a small library in each ward, newspapers, and other periodicals; engravings, stereoscopic and other contrivances for showing pictures. The regular course of lectures and evening entertainments occupy three evenings of every week during nine months of the year at each building, and which are made up principally of lectures and readings on a great variety of subjects, of exhibitions of very superior dissolving views, magnified to eighteen feet in diameter, by using the hydro-oxygen light, music, and whatever else seems likely to give interest to the course; various social parties among the patients; all the ordinary games, ten-pins, billiards, bagatelle, chess, checkers, &c., in which patients are likely to be interested, and so arranged as to be used in the evening as well as during the day. Patients, too, are encouraged to engage in certain kinds of study, and in painting, drawing, fancy work, &c.; reading to the patients by teachers in the different wards, personal intercourse by the officers and others employed for the purpose.

When accustomed to such employment, patients often assist in keeping the house in order, and are urged to become interested in other patients, in the use of musical instruments, taking care of pet animals, and whatever else is suggested by individual peculiarities, and come within the resources of the institution. There is also a circular railroad, a gymnasium at one building and a calisthenium at the other, and the intention is to have a duplication of whatever is found desirable in connection with each department.

Medical Treatment.—Although detailed remarks on the medical treatment of insanity can scarcely be expected in an article like the present, still, if no mention of the subject was made, it might be regarded as a failure to recognize its importance. A very large proportion of all the cases received, when carefully examined, give evidence of impaired general health; and there are but a few who do not present indications, not only for a special regimen, and all the appliances for moral or mental treatment, but also for the use of medicines of some kind. While every case must be prescribed for from it own symptoms, it may safely be said that a great majority require a tonic and invigorating rather than a depletory course of treatment. Of all the cases that have been treated in the Pennsylvania Hospital for the Insane (three thousand three hundred and sixty in number), no one, after entering the institution, has seemed to require or had general bleeding performed, nor has a head ever been shaved, for the treatment of insanity. While cold and shower baths have been almost entirely abandoned, warm or hot baths have come to be regarded as among the most important means of treatment.

Cost.—Without a statement of the cost, no account of such a building

and such arrangements as have been described would be at all complete, and especially not of one like that under notice, which is entirely the offspring of the benevolence and liberality of a community, a result of practical Christianity, and a generous recognition of the paramount claims which such afflictions of our fellow men have at all times upon our interests and our sympathies. The style of architecture is plain, and all useless ornament has been studiously dispensed with; but wherever the comfort and welfare of the patients were concerned, everything has been done in a thorough manner.

The amount of money paid on account of the new building and its varied fixtures and arrangements, up to the present time, is $322,542 86, and a further sum of about $30,000 will be required to meet the other liabilities that have been incurred. Of this total sum, $20,276 28 have been for the boundary wall and gate-house; $2241 46 for the carriage-house and stabling; $800 for the carpenter-shop; $4456 03 for machinery of different kinds; $23,612 37 for heating and ventilating apparatus; $15,201 47 for grading for building, planting, and improving the grounds; and $10,441 73 for furniture.

Organization.—As heretofore, the government of the Pennsylvania Hospital for the Insane is vested in a board of twelve managers, who are elected annually by the contributors, give their services gratuitously, and, like all the other officers, have no pecuniary interest in the institution. They visit by committees both departments on the 7th day (Saturday) of every week, to examine the accounts, receive reports from the physician, and visit the wards and patients as far as they may deem desirable. Since the opening of the hospital, nineteen years ago, these weekly visits have not been omitted in a single instance. The board of managers appoint the officers resident at the institution, and who are, as before mentioned, a physician in chief, having the general supervision and direction of both departments, and one or more assistant physicians, a steward, and a matron, at each building. In the immediate care of the insane, besides those already mentioned, are supervisors, teachers, or companions for the patients, and not less than two attendants for each ward, which, if the house was entirely full, and no special attendants for single patients (of which, however, there are always several), would give one attendant for every six or seven patients. At night the care of the patients is intrusted to watchmen or watchwomen, according to their sex, and these come on duty before the attendants retire, and do not leave the wards till they are up and engaged in their regular morning duties. The supervisors, teachers, and night watchers are expected to make written reports to the physician daily.

There are also employed for each department, a carpenter, three men connected with the boilers and machinery, a gardener and assistants, coachman, gatekeeper, &c.

Admission of Patients.—This hospital, having no connection with any sect, nor under any political influence, is resorted to by persons of all professions and callings, of every religious denomination, and when it has room receives all classes of insane patients, without regard to the form of the disease, its curability, or the place of residence of the applicant. Idiots, however, it may be mentioned, are not admitted, and cases of mania-à-potu are received only into the hospital at Pine and Eighth streets, in the city of Philadelphia. Some one member of the board of managers gives the order of admission; but before doing so, a certificate of insanity from some respectable graduate of medicine is always required, as well as a request for the reception of the patient, and security from a resident of Philadelphia, or its vicinity, for the payment of all expenses incurred at the institution.

The rates of board vary according to the pecuniary ability of the applicant, the character and extent of accommodation, and the amount of special attendance that is desired—the lowest price for paying patients being not any more than the actual cost of support. In addition to those who pay board, a limited number of recent and supposed curable cases, who are known as such only to the officers of the house, and who have no distinction made in their treatment, are admitted and cared for, without charge of any kind, so long as there seems to be a probability of their being restored. The number on this free list (now 46) is regulated entirely by the resources of the institution, which, as already stated, come entirely from private benevolence, as it receives no assistance of any kind from city or State.

Separation of the Sexes.—Before closing this notice of the Pennsylvania Hospital for the Insane, it may not be uninteresting to state that the completion of the new building allows this institution to carry out, under very favourable circumstances, what has for many years past been gradually gaining favour with some of the most experienced medical officers of American hospitals for the insane—a provision for the treatment of male and female patients in entirely separate buildings.

It is scarcely necessary to say that this arrangement in no way interferes with the humanizing influence, especially for men, of suitable associations between the sexes; but intimacies of this kind between patients ought always to be guarded against. It certainly will be as agreeable and as profitable to all, that these influences shall be exercised by those who are of sound mind and discreet demeanor, rather than those whose impaired intelligence or want of self-control had compelled them to claim the benefits resulting from a residence in the hospital. So far as I am aware, there is not a single advantage in having the two sexes in the same building, and it requires little observation to know that there are many and often not trifling disadvantages; while the separation will not only render the classification much more complete, but permit for both the removal of many restrictions that could not otherwise be dispensed with.

The new building was given to the male patients, because in its con-

struction and arrangements many things could be introduced that seemed specially desirable for men, particularly so in the work department, and because it could not be made to have quite as great a degree of privacy as the other, while there was a large amount of planting and improving about its grounds, which would give pleasant occupation to its inmates for a considerable time to come. On the other hand, the original building was selected for the female patients, among other reasons, because the proposed improvements would give it greatly increased cheerfulness and comfort; that it must always have more privacy; that its grounds were more highly improved; that the trees were more fully matured; and it was also felt that from the greater care, as well as more gentle use it would receive, no very long period would elapse before the two houses would appear as though they had been in use about the same length of time.

As soon as the repairs and improvements now in progress at the department for females are completed, it is believed the two will in most respects be about equal in comfort and efficiency; that nearly the same number of patients can be provided for in each (250 in that for males, and 225 in that for females); and that, with the many advantages not heretofore possessed, the institution will be able to do its full share in promoting a real advance in the treatment of insanity, and a general amelioration of the condition of the insane.

PHILADELPHIA, January, 1860.

ART. II.—*History, Medical Topography, Climatology, Hygiène, Diseases, &c., of Fort Bridger, Utah Territory.* By ROBERTS BARTHOLOW, A. M., M. D., Assistant Surgeon U. S. Army. (Extracted from Reports to Brevet Brigadier General Thomas Lawson, Surgeon General U. S. A.)

History.—For many years past, Fort Bridger, U. T., has had some celebrity as a trading station, occupied by James Bridger, a famous mountaineer—whence its name. The fort consisted of an irregular collection of log-houses, surrounded by a stockade; built in part for defence against the Indian tribes in the vicinity; in part for conveniences of Indian traffic. When the Mormons occupied the valley of Salt Lake, and grew into a formidable community, the fort came into their possession, and was further strengthened by the erection of a quadrangular wall. Upon the arrival of the "army of Utah," in the fall of 1857, nothing remained of Fort Bridger but this wall—the wooden structures having been burned by the Mormons, when they could no longer hold possession.

The erection of the necessary quarters for a garrison of five companies, commenced immediately after the advance of the main body of the army,

in June, 1858; but owing to the difficulty experienced in procuring the necessary materials, proceeded slowly, and at this time,[1] though in a state of considerable forwardness, the buildings are uncompleted. The hospital was so far advanced toward completion as to be considered habitable early in December last, and the company quarters a few weeks later. In a half-finished state the officers' quarters were occupied in January.

Medical Topography, &c.—Fort Bridger lies in latitude 41° 18′ 12″, and in longitude 110° 32′ 83″, in the valley of Black's Fork, a mountain stream tributary to Green River. This valley has an average width of about one thousand yards. Bluffs, more or less prominent, separate the valley from the table-lands on either side: these bluffs are less prominent in the vicinity of the post, which is, therefore, much exposed to the prevalent high winds. The soil of the valley is a sandy alluvium, light, porous, superficial, and consequently incapable of supporting a luxuriant vegetation. Under the alluvium lies a stratum of sand, rubble-stone, and breccias (diluvium), in all respects like the surface formations of the plateaus or steppes. The bluffs which bound the valley consist of sand, conglomerate and shales, and in some situations of magnesian limestone (dolomite). Numerous ravines and mounds of exposed rubble-stone attest that the valley is overflown at the period of annual rise, when the stream receives the melting snow and ice from the Uintah Mountains. Water can be procured at all seasons in the valley by digging a few feet into the substratum.

Ranges of mountains and intervening table-lands constitute the general features of the territory of Utah. Fort Bridger is situated upon one of these plateaus, which stretches from the South Pass to the Uintah Mountains, and elevated more than six thousand feet. This plateau is intersected by a number of streams, bordered by narrow valleys and irregular bluffs. The herbage of these valleys, though not abundant, contrasts strongly enough with the artemesia barrens on either side. The same facts are true in respect of other portions of Utah. In the valleys hard by the streams only can the means of subsistence be wrested from the unwilling soil. Rains falling but seldom, and the atmosphere being remarkably dry, irrigation is absolutely necessary for the production of crops. The amount of life which may be sustained in the territory depends, therefore, upon the amount of water available for irrigation. As this supply is small, a narrow limit is imposed upon production and population: fortunately so, in view of the complicated relations growing out of Mormon civil and religious institutions.

In this connection, rather than under any other head, I may give an account of some of the Fauna and Flora. In the vicinity of Fort Bridger, the country being extremely barren, animal life is not abundant. The mountain fastnesses are frequented by the grizzly bear (*Ursus americanus*)

[1] Sanitary Report for First Quarter, ending March 31, 1859.

the mountain sheep (*Ovis montana*), and the table-lands are tenanted by that curious little animal, the prairie dog (*Arctomys ludoviciana*). Large numbers of beaver (*Castor fiber*) inhabit the streams. The following birds are found in considerable numbers: of the Columbæ, the turtle-dove (*C. turtur*), and the wild pigeon (*C. migratoria*); of the Tetraonidæ, the sage hen (*Tetrao urophasianus*), and the quail (*T. coturnix*); of the Charadriadæ, the curlew (*Numenius longirostris*). The following water-fowl have come under my notice: the wild goose (*Anser canadensis*), and the mallard duck (*Anas boschas*).

Whatever of value in the vegetable kingdom is produced in this territory comes by the labour of man; nature has accomplished little in this department of her works. Along the streams are occasionally seen a few cottonwood trees (*Populus angustifolia*), and an herbaceous willow; but the plains or steppes are treeless, and covered by the wide-spread wild sage (*Artemesia tridentata*), which is valueless for every economic purpose, except a temporary camp fire.

This region, like the steppes of Tartary, to a limited extent, is only adapted to sustain a few herds of grazing cattle, and a nomadic population of savages and half-breed Indian traders, or Mormon freebooters: it can never become a nursery of civilized heroes. As a necessity of their position the wretched inhabitants must prey upon the rest of mankind, and procure by violence and rapine that subsistence not to be obtained by remunerative labour from the arid soil. Exclusive of the Mormon colony at Fort Bridger, who left upon the approach of the army, there are two classes of inhabitants—the Indians, and the "mountain men," or traders. The Utah and the Snake Indians are the only tribes in the vicinity of the fort. I was unprepared to witness in mountain tribes, remote from civilization, so many evidences of physical decay. They are low in stature, square built, unsymmetrical, ungainly in gait, and having an appearance of premature age. The face is triangular, eyes oblique, nose not prominent, lips thick, and hair long, black, coarse, and very thick: a face resembling the Nojai Tahtar. The development of the upper extremities is out of proportion to the lower—the legs being small, crooked, and feeble; no doubt due to being much on horseback from early life, and to the expansion of the chest from diminished atmospheric pressure. As a rule the squaws are more athletic and vigorous than the men; but are far from approaching any elevated standard of beauty. Both of these tribes, as far as my observation extends, are very debased, having none of the elevated sentiments and heroical aspirations attributed to Indian heroes in Hiawatha. It seems to me, in fact, that the Indian races are destined to decay, not as a result solely of contact with a more vigorous race, but by an immutable law of nature. Have they not served their purpose in the social economy of humanity?

The other class to which I alluded consists of Canadian French and renegade Americans, who could not endure the restraints of civilized society,

or were exiled by crimes. If we form an opinion of the "mountain men" from the reports of poetic explorers, we would ascribe to them many virtues —integrity, steady friendship, a noble sense of justice, and high personal daring. I did not find the original of this description in real life. They have some of the good qualities of the Bedouin—ready hospitality—and many vices to which he is a stranger. A country like the great plains, which has an analogue in the plains of high Asia, would present an incomplete analogy without that other characteristic—a nomadic people, having a strong thirst for plunder, and acknowledging no law but the *lex talionis*.

These facts, if they exhibit little else, show, I think, the tendency of man, if left to himself, to revert to his original, primitive type.

Climatology.—The mean height of the barometer,[1] for the five months during which observations have been taken at this post, is 23.48 inches. Accordingly, the elevation is about 6,428 feet. At this elevation, and at the 41st parallel of north latitude, the climate of Fort Bridger, properly, is placed in the "upper or cold regions" of meteorological writers. The mean height of the thermometer for eight months, from July last,[2] is 39°.22 F. The proportion of summer months in this estimate is too large for the mean of the year, which would be lower. The lowest range of the thermometer, since the occupation of the post, was 22°. Extreme cold is less evident to the senses, in consequence of the dryness of the atmosphere. As already intimated, rain seldom falls; but snow storms of greater or less severity occur in every month of the year. On the summit of the Uintah Mountains the domain of "perpetual snow" is reached, where great fields of snow lie all summer, in full view from the fort. The chief feature of the climate is the almost constant prevalence of high wind from the southwest, at times blowing with the intensity of a hurricane. A calm day is a phenomenon rarely observed at Fort Bridger.

Hygiène.—The foregoing observations, with propriety, introduce the subject of hygiène. I include under this designation, air, exercise, food, clothing, habits, and the duties and employments of the command, in so far as these influenced its sanitary condition.

From the preceding account of the situation and climate of Fort Bridger, it will be perceived that the maximum amount of healthy air has been secured by the location of that post. No bluffs being interposed or forests, the strong wind, cooled in its passage over the snow-covered summits of the Uintah Mountains, sweeps through the fort, penetrating every crevice. The quarters, built substantially of logs, though incomplete, are much more comfortable than the canvas houses and tents in which the troops lived prior to December. The company quarters at present occupied are much too small for the full standard of strength; consequently, additional buildings are being erected. By crowding the men into too confined a space,

[1] Green's Cistern Barometer.

[2] July, 1858.

sufficient regard has not been paid to cleanliness. This is more especially the case with the dragoon companies. The necessary attention to his horse and equipments prevents the dragoon soldier exercising a proper care over his own person; beside his duties expose him much and frequently to filth. This cause of disease, under less favourable circumstances, might have produced various grave disorders; here, however, it influenced in a remarkable manner the development of a disease of which there was a general predisposition at the post. An interesting fact in the history of scorbutus, which will appear further on.

Since the arrival of the present garrison, it has been engaged in great part in the work of building, in procuring fuel, in guard and police duty. These employments have not, in any appreciable degree, influenced the health of the command.

The diet of the men consists of the ordinary ration, to which the antiscorbutics are added from time to time, in extra issues, on the recommendation of the medical officer.

The water supplied by the branch of Black's Fork, which runs through the Parade, is pure, clear, and palatable. If this were the only beverage used by the men, my professional duties would be somewhat the lighter. A vile concoction, known as whiskey, has been from time to time surreptitiously sold to the troops, notwithstanding prohibitory orders from the commanding officer. Manufactured by traders from alcohol, tobacco, cocculus indicus, and other narcotics, this liquor has in one instance produced an immediately fatal effect, and more or less alarming symptoms in various instances. From a certain specimen of whiskey, an appreciable quantity of tobacco was separated by a paper filter!

Diseases.—I arrange these into two classes:—

I. Ubiquitous diseases, which occur under all circumstances of climate and every local condition, including fevers, inflammations, and specific diseases.

II. Local diseases, including a certain febrile state, known as "mountain fever," scorbutus, neuralgia, and rheumatism.

The typhoid or enteric fever is an ubiquitous disease, in so far as the United States is concerned, and occurs under the most opposite conditions of climate. It is, I am persuaded, one of the forms in which the so-called mountain fever manifests itself, and will be considered under the second head in connection with that disease.

I. I have not happened to meet with any cases of common inflammation—serous, mucous, or parenchymatous. The tendency of high latitudes and considerable elevations, it is asserted, is to the development of thoracic inflammations; but certainly this is an error as regards this region. No cases of idiopathic pneumonia or pleuritis, or of phthisis, have fallen under my observation. It is a question well worthy of consideration, whether the climate of this elevated region is adapted to the amelioration and cure of

the tubercular diathesis? As phthisis is annually on the increase in the United States, and as the subject of its hygienic management becomes more important than the treatment by medicaments, in view of recent researches, the consideration of climate is of the utmost consequence.

In my report for the third quarter, 1857, I remarked the beneficial influence of the march over the plains, upon those in whom a "phthisical tendency was marked and imminent." The equability of this climate, its dryness and the purity of the atmosphere, together with diminished pressure, constitute a hygienic state highly favourable to such improvement. Fort Laramie, though not so elevated as Fort Bridger, has, in all its surroundings, a similar character. Assistant surgeon G. K. Wood, in his reports from this post, has prominently noticed the remarkable exemption of the various commands stationed there from all phthisical diseases, and the notable improvement of all such as came thither labouring under the incipient or well-established forms of consumption. To active exertion, inseparable from life on the plains, may be attributed some of the benefits experienced in these cases. Much of the change is accomplished, I doubt not, by the increased expansion of the lungs in consequence of diminished pressure; by the determination to the surface, and by the purity of the respired atmosphere. From these considerations, it appears to me quite evident that to the victim of acquired or hereditary predisposition to consumption, the great plains and the Rocky Mountains offer more certain relief than any other climate in our country. A journey over the plains is not so formidable an enterprise as a few years since: it can be made now both with celerity and safety.

With regard to the specific diseases little need be said. Variola and syphilis, especially the former, have at various times committed extensive ravages amongst the Indian Tribes.

II. "Mountain fever" is a term applied to a form of disease said to be peculiar to the elevated regions of the Rocky Mountains. Under this designation it is described in the *St. Louis Medical and Surgical Journal*, for March, 1855,[1] by Dr. Ewing, who considers it a disease *sui generis*, appearing only at an altitude of about 7000 feet, and dependent upon the respiration of rarefied air, in some mysterious way not explicable. He thinks the situation at which the fever occurs precludes the idea of the agency of malaria in its production. Dr. Ewing's description corresponds to some of the cases it happened me to meet at Fort Bridger. As already intimated, I consider typhoid fever as one of the forms of the so-called mountain fever. Two types of this affection are, therefore, to be described —the periodical and the continued. It will be seen further on how these, by certain local conditions, are so much modified as to be readily confounded, and to present so many variations from the true type as to be considered an original disease.

[1] Quoted in Dickson's Elements of Medicine.

The periodical cases were usually remittents or quotidian intermittents. Many of the latter, when left to themselves, early assumed the remittent type; consequently, remittents much more frequently come under treatment.

Symptoms.—All cases were ushered in by a chill, more or less decided, which lasted a variable period. In the febrile stage the pulse was full, quick, frequent but soft, and sometimes dicrotic; skin hot, dry, and mordicant; tongue heavily furred in the centre, red and dry at the edges and tip. There were present also intense cephalalgia; aching in the back and limbs; suffusion of the eyes; loathing of food, and sometimes nausea and vomiting. Delirium occurred in several cases during the exacerbations. The remissions were characterized by debility, listlessness, and indisposition to the slightest exertion of body or mind, and a most painful aching of the limbs. The countenance at these periods was vacant, dull, and tinged a dirty-yellow; the pulse small, quick, irritable; the skin moist, perspiring, but sweating was never profuse. Diarrhœa was a frequent symptom: the stools were thin, yellowish, watery, and offensive, occasionally greenish, dark-brown, or black. Urine was usually scanty, and deposited an abundant lateritious sediment.

The chill was not regular in duration, nor did it usually amount to a distinct rigor, and the febrile reaction was extremely gradual in its approach. In some instances the two stages were coincident, and during the highest excitement a sense of chilliness was experienced. The appearance of the tongue was peculiar—heavily loaded with whitish fur, through which enlarged papillæ protruded: like the "strawberry tongue" of scarlatina. The most painful as well as persistent symptom, was the aching of the back and limbs. Having suffered an attack *in propria persona*, I can testify to the acuteness of these pains. By some officers of the army, who had some experience with the pains of dengue, it was likened to that affection, and bore amongst them the name of "break-bone fever." There was little regularity in the paroxysms, either in duration or periods of recurrence.

Two classes of cases occurred, differing only in intensity: the *mild* and the *grave*. The former, if left to the unassisted efforts of nature, after a variable duration, gradually ceased, but manifested a disposition to relapse at uncertain intervals; the latter, however, tended to the continued type, if not arrested by quinia, and were not easily distinguished from the typhoid cases, which, during the early stages, were unequivocally remittent. This is a fact with regard to the behaviour of typhoid fever at considerable elevations, heretofore observed—the occurrence of distinct remissions, and it is this circumstance which, in my opinion, has confused the differential diagnosis of the two affections, creating the impression that they were forms of the same disease—"mountain fever."

The typhoid fever of Utah has other peculiarities beside the occurrence of remissions. Many of those general symptoms, so characteristic, were

wanting: coma, subsultus tendinum, muttering delirium, floccitatio; but in all were present some mental disturbance and stupor, cophosis, epistaxis, gurgling on pressure over the ileo-cæcal valve, pea-green, watery stools; in two instances the "rose spots," and frequently the sudamina and sour-smelling perspirations. All the fatal cases were submitted to a post-mortem examination, and the characteristic lesions of typhoid fever invariably found.

Holding these views of the nature of the so-called mountain fever, and having treated it successfully by the abortive method—the heroic administration of quinia—it remains for me to account for its origin. I do not hesitate to declare my conviction that the periodical form of mountain fever is a disease of malarial origin, modified by elevation and rarefied air. The cases which occurred in the army of Utah, happened in those men who had served in Kansas and been exposed to the miasm of the Platte Valley on the march over the plains. I saw other cases, and the most violent, amongst teamsters from Missouri and Illinois, who had frequently suffered attacks of undoubted malarial fever. The ordinary intermittents and remittents of the Platte Valley gradually changed in character as the troops ascended the table-lands of the Rocky Mountains, until, having reached the south pass, they merged into that febrile state already described, yet not by an abrupt transition. Those attacks, which, it is alleged, have occurred amongst the *habitues* of the mountains, are not well authenticated cases of periodical fever, but were rather typhoid, modified, as I have already shown that affection is, by elevation. In Salt Lake Valley, mountain fever is extremely common amongst the *newly arrived emigrants;* much less so amongst the resident inhabitants, who have undoubtedly typhoid fever, but confounded with the periodical fever, and both known under the same local designation.

Ten cases of scorbutus are at present[1] under treatment in the hospital—all of them privates from the two dragoon companies at this post. A general predisposition to the scorbutic cachexy no doubt existed in the whole command, owing to the absence of fresh vegetables and to the unvaried diet; but was developed in the dragoon companies by an especial cause—want of cleanliness, the result of circumstances before explained. In these two companies the disease attacked by preference the men of dissipated habits, addicted to the use of bad whiskey. Here, then, we have established two existing causes of land scurvy, which are, probably, the exciting causes in a majority of the cases, as they occur in our army. Despondency, *ennui*, deficiency of vegetable aliment, and the exclusive use of salted provisions, are the most apparent predisposing causes. Viewed in this light, the indications of treatment are clearly for the use of certain hygienic means—cleanliness, such mental amusements as may relieve the tedium of confine-

[1] March, 1859.

ment, exposure to fresh air and sunshine, and the use of an exclusive vegetable diet, or a mixed diet of vegetables and raw beef. I have seen no benefit result from the use of the various medical agents recommended.

The introduction of the "desiccated vegetables" into the military service has been of incalculable advantage in the prevention of scorbutus. When the scorbutic cachexy is well established, the desiccated vegetables are not so efficacious in the cure as fresh vegetables; yet, in situations where the latter cannot be procured, are indispensable. Of the two kinds issued by the commissary department—the "mixed vegetable" and the "desiccated potato"—the latter is preferable, as well for the prevention as for the cure of scurvy.

The neuralgic and rheumatic affections occur so constantly upon the table-lands and plateaus of the interior continent, as to be considered having especial affinity for a dry and rarefied atmosphere. Elevation, however, does not modify the symptoms peculiar to each, but increases the obstinacy and persistence of the symptoms. In treating the cases of acute rheumatism which occurred during the past winter I followed the teachings of Dr. Fuller, and have every reason to be satisfied with the results.

In concluding this article, I am sensible of the limited field for observation afforded the physician in the diseases of Fort Bridger. Whilst no new facts are presented, the behaviour of well-known diseases under somewhat novel circumstances may not be devoid of interest.

FORT RIDGELY, MINNESOTA.

ART. III.—*Contributions to Pathological Histology.* I. *Remarks on Errors in the Anatomical Diagnosis of Cancer.* II. *Remarks on a Secondary Cancer of the Axilla.* By J. J. WOODWARD, M. D., of Philadelphia. (Read before the Biological Department of the Academy of Natural Sciences of Philadelphia. Dec. 4, 1859, and Jan. 16, 1860.)

I. *Remarks on Errors in the Anatomical Diagnosis of Cancer.*—It is the purpose of this paper to record an error in diagnosis committed by its author, and to draw from it its logical conclusions.

The details of the case will be first stated with as much accuracy as possible, and without comment, that those whose doctrinal views differ from his may make of it such use as they think proper; subsequently, the pointings of the case will be made the subject of a few remarks.

In a paper, entitled "Remarks on the Anatomical Diagnosis of Cancer," read before the Biological Department, November 15, 1858, and published in this journal, in January, 1859, two illustrative cases were presented. It is to the first of these two cases that reference is here made.

The patient, it will be remembered, was an unmarried woman, 43 years of age, and the tumour occupied the left breast. It was removed by Prof. Henry H. Smith, at the Clinic of the University of Pennsylvania, October 16, 1858. As the article in this journal to which I refer was written purely from the anatomical point of view, a full history of the case is not presented by it. I condense, therefore, the following details in the history from the *Medical and Surgical Reporter* for October 29, 1858, p. 84.

The tumour had been first noticed in the breast as a small kernel about the size of a chestnut, a year previously to the operation. It was accompanied at that time by great tenderness and intense burning pain. After a time several smaller kernels could be felt surrounding the primary one, and thus the disease progressed until the whole gland was involved. When the patient was first seen by the author, some two months prior to the operation, the breast was found to be uniformly enlarged, and about once and a half its natural size. It was smooth and regular upon the surface, presenting to the touch no nodosities; on pressure it was found to be exceedingly hard and unyielding, the pressure sometimes causing pain. The skin covering the breast was natural in appearance, but abnormally adherent to the gland, especially around the nipple. The nipple was large and indurated, but *not retracted;* the sebaceous follicles in the areola were enlarged and prominent. The gland was movable and not adherent to the pectoral muscles. It was the seat of considerable pain, especially at the menstrual periods, or after excessive bodily exertion. At each menstrual period it was much enlarged, diminishing a little during the intervals.

The patient was of a nervous and excitable disposition; but her general health was good and her frame was robust. The opposite breast was healthy; but there was a very slight induration in one of the lymphatic glands of the axilla on the affected side. On the arm of the same side, over the belly of the biceps muscle, was what was presumed to be an adipose tumour: it was soft, doughy, and painless, and had during eight years gradually attained the bulk of a man's fist, without causing any suffering or inconvenience.

Under the influence of local bloodletting and emollient and anodyne applications the tumefaction in this breast at first gradually diminished, and its painfulness was to some extent relieved; but it continued hard, became even more adherent to the skin than at first, and subsequently began once more to enlarge.

It was, therefore, removed by Prof. H. H. Smith, by the usual operation. At the time of its removal the diseased gland presented the following conditions: (*American Journal of Medical Science*, loc. cit.) It "was enlarged to once and a half its normal size. It was smooth, regular, hard, and adherent to the skin; which, however, was healthy in appearance."

Such were the symptoms and the history of the case prior to the operation.

The external and minute anatomical details presented can be found in full in the article in this journal to which reference has been made, and need not, therefore, be reproduced here. Suffice it that a careful examination led to the conclusion that the lesion was not cancer, but that the fibrous stroma of the breast had been the seat of a new formation of connective tissue, which had given rise to the great induration of the gland. No new formed elements were detected, but the symmetrically developing spindle-shaped cells of immature fibrous structures. And although the epithelium of the milk ducts (the gland lobules having disappeared as is normal in a single woman of this age) was in a state of fatty degeneration, the opinion was expressed by the author that the essential lesion was *not cancer, but an innocent connective tissue formation.*

Nevertheless, the history of the case has since shown, beyond the possibility of cavil, that a grave error in diagnosis had been committed. And the cancerous disease to which the patient was a victim did not fail to return at an early period, run a most malignant course, and destroy the sufferer. The healing process commenced favourably in the wound made by the operation, and in less than a week the patient was walking about the ward. Shortly after this, however, she began to complain of sharp pains shooting through the left side of the chest. These, however, were at first more or less completely relieved by anodyne liniments. But subsequently the healing process was disturbed and no longer progressed as rapidly as at first, and more or less induration in the skin and subcutaneous adipose layer adjacent to the wound became perceptible. The pains in the chest gradually became more severe, and were exaggerated on inspiration; burning and tingling sensations were experienced in the indurations about the wound; the patient's naturally nervous disposition became yet more excitable, and she began to emaciate.

The wound cicatrized at length; but not until the whole line of the cicatrix was surrounded with well-marked, rounded, hard nodules of some size, flanked by numerous smaller nodules from the size of a pea to that of a shellbark. The skin covering these nodules, especially those bordering upon the cicatrix, became congested and livid, and from time to time the cicatrix gave way and permitted the exit of small quantities of an offensive ichorous discharge.

Graver symptoms now rapidly followed each other. The opposite breast began to indurate. It became slowly and uniformly hard, and adherent to the pectoral muscle; but as in the case of the primary tumour, though the breast was totally diseased, there was no retraction of the nipple, which became enlarged and indurated, while the areola grew dark, and its sebaceous follicles prominent.

Still later the peculiar yellowish hue of the skin, characteristic of the so-called cancerous cachexia, set in. It was accompanied by a marked enlargement of the liver, recognizable by the increased area of dulness on

percussion over that organ, and by the possibility of feeling the shape of the lower margin of the enlarged gland projecting downwards below the edge of the ribs.

The pains had meanwhile become torture, coming on in paroxysms of terrible severity, of two or three days' duration, which were scarcely rendered bearable by the administration of large doses of anodynes. They were chiefly seated in the secondary growths about the cicatrix, and in the lung of the left side; but seemed to radiate thence to all parts of the body. The pain in the lungs had gradually become associated with the most dreadful dyspnœa, which compelled the patient to retain the sitting posture night and day. The new formation had gradually extended till the whole of the front of the chest was involved in one morbid mass, which extended from the clavicles to the inferior margin of the thorax, and from axilla to axilla. So extensive and compact was the diseased structure, as almost to abolish the respiratory motion of the ribs, so that respiration was wholly performed by the diaphragm, the motion of which was considerably embarrassed by the enlarged liver. No ulceration occurred in any of the visible secondary growths, though from time to time a sanious discharge continued to issue from the line of the cicatrix.

The patient now gradually sank, overwhelmed by her frightful sufferings: the lower limbs became œdematous, and finally paralytic; a foul, bloody discharge of a horrible odour issued from the vagina; her emaciation became extreme; the jaundiced hue of the skin decided, and the dyspnœa became more and more complete, until she died, November 17, 1859.

These symptoms are quite enough to determine the cancerous nature of the disease. Here is not only cancer, but cancer of the most terrible malignancy, and of more than the average rapidity in its progress. It is much to be regretted that a complete post-mortem examination was absolutely refused by the family of the patient; with great difficulty permission was obtained to remove a small portion of one of the larger nodules, near the cicatrix of the operation. This was submitted to careful anatomical investigation; and this examination, however much it may be wished that a more complete autopsy had been accorded, is sufficient to prove that the secondary growths had in the part examined at least the *ordinary anatomy of cancer.*

In the piece obtained for examination the skin had coalesced and become confounded with the subcutaneous tissues into one hard, uniform mass, difficult to cut, and grayish-white in section.

In this mass the meshes of a dense fibrous stroma (especially rich in yellow elastic tissue in its superficial parts) were found packed full of nuclei and nucleated cells, which were displaced on scraping, forming a creamy juice.

The free nuclei were comparatively scanty; they were rounded, oval, or multiform, $\frac{1}{2500}$ to $\frac{1}{1800}$ of an inch in long diameter. Owing, probably,

to post-mortem changes (the piece having been removed thirty-six hours after death) they were so granular that the characteristics of the nucleoli could not satisfactorily be made out.

The cells, rounded, oval, or polygonal, presenting granular contents, and generally one nucleus, similar to those above described, varied from $\frac{1}{1300}$ to $\frac{1}{700}$ of an inch in long diameter.

Besides these, the juice presented scraps of white fibrous and of yellow elastic tissue, and innumerable oil-drops, granules, and granule masses, some of the larger oil-drops being of a peculiar bright orange colour.

Entangled in the cancerous mass a few atrophied fat lobules of the panniculus adiposus were yet discernible; some of these presented the normal colour, others contained in the compressed fat cells the peculiar orange-coloured fat above alluded to.

Such, so far as the facts could be obtained, are the history and anatomy of the case. They have been detailed by themselves, and apart from any remarks they may suggest, in order that the FACTS may not appear obscured or perverted by the following considerations, to which they have given origin.

In the first place, the data above furnished abundantly justify the conclusion that the primary affection for which the breast was originally removed, and the secondary growths about the cicatrix in the opposite breast, and perhaps in several internal organs, were all parts or manifestations of the same general disease.

Of course the possibility cannot be denied, that after the removal of an innocent tumour the patient may subsequently be attacked by cancer. But a strict review of this case puts such a possibility out of the question for it. Not only is the whole history from the date of the operation that of a rapidly recurring cancer; but it is especially to be noticed that in all its external characteristics the secondary tumour in the right breast simulated closely the primary tumour in the left. In both, the left breast at the time of its ablation, and the right at the time of death, the whole gland was indurated, uniformly hard and smooth, the skin over it adherent, the nipple large and indurated, but not retracted, the areola dark, and its sebaceous follicles enlarged and prominent. In fact, there is no language that would describe the external appearances of the affection of the one breast, which would not apply in all strictness to the other, except that the breast last affected ran its course more rapidly, and had at the time of death become adherent to the pectoral muscle.

If, then, as probably none would attempt to deny, these secondary growths be cancer, the cancerous nature of the primary tumour must certainly be admitted; and this once admitted, it would appear that a growth which anatomically consists of symmetrically developing connective tissue (a so-called fibro-plastic formation), may, nevertheless, in spite of its appa-

rently innocent anatomy, be a cancer, about to run the usual malignant course.

The possibility thus indicated has already been several times realized by observation, both in Great Britain and on the continent, and has led to the erection of a class of malignant fibro-plastic growths. This group or class is, however, at present but ill defined, and much patient investigation will be required to show how far the existence of such a class is legitimate, and what should be its limits.

A single fact, however, in connection with the case under discussion, will prevent it from being classed elsewhere than among the true cancers, and that is, that the *anatomy of the secondary growths*, as far as they were examined, was *the ordinary anatomy of the most completely pronounced cancerous formations.*

The error in diagnosis thus recorded will not, it is conceived, militate very seriously against the true value of minute anatomical investigation in assisting the diagnosis of cancer. It is, also, confidently believed that the detailed publication of the particulars of such errors in anatomical diagnosis will have inevitably the effect of diminishing their number; will furnish fresh data for a wiser determination of doubtful cases, and have a constant tendency to diminish the size of that group of *transition forms* which stand on the border line between innocent and malignant growths.

But, besides the value this case possesses from this point of view, it assumes fresh interest when looked at from the stand-point of the disputed question of homology. Without visible heterology of structure, the primary growth above described was, nevertheless, cancer; and this consideration appears to suggest in this case a query thus expressed by the author in a former paper:—

"May a growth, whose anatomy is that of symmetrically developing connective tissue, subsequently assume the cancerous character; or is the distortion and malformation characteristic of the elements of cancer impressed upon them from the earliest period of their existence?" (See "Contributions to Pathological Histology," *American Journal of Med. Sciences*, October, 1859, p. 334.)

Up to the present case, the possibility implied by the first part of this query has not been realized by the author, who has seen primary tumours of extremely minute size, and of far briefer duration than that under consideration, presenting the cancerous anatomy. Such was not, however, the case in the present instance, in which a primary growth of symmetrically developing connective tissue was followed by secondary formations, presenting the ordinary anatomy of cancer.

Now, it may fairly be assumed from the known habitudes of cancerous growths, that had not excision of the mammary gland been resorted to, the disease would, nevertheless, have steadily progressed; the opposite breast, the surrounding integuments, and perhaps the internal organs,

would all have become as completely diseased, and in the same manner, as actually occurred. In this case, two possibilities only can be conceived of with regard to the mammary gland: either it would have retained the anatomy it presented at the time of the operation, or it would have acquired, by the metamorphosis of elements then existing, or by the subsequent development of others, more or less of the anatomy of cancer.

In either case, an intimacy of relationship is shown to exist between a connective tissue formation and cancer, which is easily explicable from the stand-point of the doctrine that the typical elements of ordinary cancer are deformed young connective tissue elements; but which is most mysterious and unintelligible from the stand-point of the heterologists.

In fact, in view of the frequent anomalies of nutrition, as manifested in cancer, it is not surprising that the degree of deviation from the symmetrical mode of development (supposing cancer to be a "malformed and aborted new formation of connective tissue") should vary greatly in different parts of the same growth, and in the whole growth at different periods of its history, being sometimes very much less decided than at others, and occasionally even so trifling as to give rise to error in the interpretation of the appearances presented. And the practical deduction would follow from these considerations, that of a growth presenting in full the cancerous anatomy, the history of cancer can be predicted with greater certainty than will attach to a denial of the cancerous nature of a growth based upon its anatomical similitude to the benignant or symmetrical connective tissue formations. At the same time the opinion must be expressed, that the number of cases in which error will arise from this source will be comparatively few.

II. *Remarks on a Secondary Cancer of the Axilla.*—The purpose of these remarks is to record the progress of a case diagnosed upon anatomical grounds as one of cancer, and published more than a year ago in this journal. (See "Remarks on the Anatomical Diagnosis of Cancer," *American Journal of Medical Sciences*, January, 1859.)

The article to which reference is made was illustrated by two appended cases. The result of the first of these cases is detailed in the preceding paper. The second is that now referred to. It was stated in the original description of this case, that "its cancerous nature could only be safely announced on the grounds of the minute structure of the growth." The patient, who was aged about sixty years, "presented in her left breast an ulcer the size of a half dollar, which involved the nipple, and had gradually attained its present size during a period of about eighteen months. During this period it had been carefully treated, but refused to yield to any of the measures adopted; and as the patient suffered much inconvenience from the pressure of her dress upon the sore, it was deemed best to dissect out

the ulcer, including with it the whole induration, which was accordingly done."

The operation was performed by Prof. Henry H. Smith, in the month of October, 1858. The wound healed rapidly, and for a time the patient was apparently cured. At this time, in speaking of the case, I said: "The appearance of the patient, however, is far from what would be expected in a case of carcinoma. This, however, will not invalidate the diagnosis; emaciation and impaired general health are frequently absent in cancer until a very short time before the fatal termination."

The progress of this case has since shown that the opinions formed were correct. The patient, after enjoying excellent health for a number of months, noticed late in the summer of 1859 a small indurated swelling in the left axilla. This enlarged, became adherent to the skin, and finally ulcerated. It was never painful, but from its position was constantly chafed by the clothes, causing considerable annoyance.

The tumour was dissected out by Prof. H. H. Smith, October 2, 1859, one year subsequently to the primary operation, and about three months after the axillary tumour first appeared. Several isolated lymphatic glands, enlarged and indurated, were dissected out with it. The wound healed readily, and the patient's general health is still good.

The pieces removed were kindly handed to me for study by the operator.

The *tumour* was rather smaller than a hen's egg. The skin covering it was thin and adherent to the subjacent growth. It was conoidal in form, and presented on the apex an ulcer three-quarters of an inch in diameter. The skin immediately around the ulcer was livid and congested.

A section cut perpendicularly through the growth was grayish-white in colour, mottled with yellowish spots and streaks. It was intimately connected with the superjacent skin, and bounded elsewhere by the adipose tissue of the axilla. It is probable, from its history and situation, that this tumour was in fact a cancerous growth in one of the lymphatic glands of the axilla; but the disease had progressed too far to permit the recognition in any part of the original normal structure.

Thin sections showed, when carefully examined, that the growth consisted of an exceedingly delicate fibrous stroma, in which were imbedded nuclei and nucleated cells, with granules, granule masses, and oil-drops.

The *free nuclei* were generally rounded or oval, with dimly granular contents, and one or rarely more than one nucleolus. In long diameter they varied from $\frac{1}{2500}$ to $\frac{1}{2000}$ of an inch.

The *cells*, from $\frac{1}{1000}$ to $\frac{1}{500}$ of an inch in long diameter, were oval, polygonal, or irregular, with granular contents, and 1 to 3 nuclei similar to those above described.

Spindle-shaped or caudate elements were quite rare.

The four or five *indurated lymphatic* glands removed with the tumour varied in size from that of a horse-chestnut to that of a Lima bean. When

cut into and examined, they were found to be quite similar, both to the naked eye and in minute anatomy, to the principal growth.

Any lengthy remarks upon the history or anatomy of this case would be quite foreign to my present purpose, which is simply to place the case upon record in its present phase, with the intention of again recurring to it when it shall have reached that termination which would now appear inevitable.

ART. IV.—*The Silver Wire in Ununited Fracture, with a Case.* By E. K. SANBORN, M. D., Prof. Surgery in Castleton Med. College, and Berkshire Medical College, Massachusetts.

IN a late number of this journal (July, 1859) I reported the history of a case of "ununited fracture of the radius and ulna successfully treated by drilling and wiring," the case having previously resisted the means ordinarily used by surgeons to procure union, including simple drilling and the seton.

Since the publication of the above case I have made further trial of the wire, in a case of false joint of three years' standing, and the result goes far to confirm the opinion there expressed, that the operation, both in safety and certainty, was superior to the operations generally practised in such cases.

The necessity of freely exposing the ends of the fragments, and of dissecting away ligamentous connections or coverings, in order to insert the wire satisfactorily, makes the operation appear somewhat formidable, in comparison with the so-called milder methods, as the introduction of the seton, drilling, acupuncture, &c. But it has appeared in the three cases in which I have performed the operation, that both the local and constitutional disturbance was very much less than that produced by the seton in the same cases. For in each case in which I have introduced the wire, the *seton* and the operation of *drilling* had been unsuccessfully tried—the seton especially being followed by erysipelatous inflammation of a dangerous character in one case, and long-continued suppuration in another. The testimony of my patients is conclusive to the fact, that *wiring* is less severe than the seton. And it will be noticed in the report of the case below given, that the seton had been worn thirteen weeks, occasioning at times severe suffering, from inflammation and abscess; while, in the operation by the wire, the external wound was healed and the union of the fracture quite firm in forty-two days, and the inflammatory symptoms were altogether of a trivial character.

Wiring, as I have performed the operation, is in fact the application of the "silver suture" on a large scale to fractured bones; and it will be quite

evident to any one familiar with the action of metallic sutures in the soft tissues, that they fulfil quite closely the conditions required for the union of unrepaired fracture, which are immovable, and close coaptation of the fracture ends of the broken bone, for a considerable length of time, associated with a *continued and gentle stimulus to the vessels of the bone and periosteum at the point of fracture.* It is also essential, for the speedy and perfect progress of the reparative action in the bone, that the surrounding soft tissues should be free from the higher stages of inflammation. According to my observations, if the wire is properly inserted, and is allowed to remain undisturbed, the bone in a few days becomes passive to the presence of the foreign body; while the wound in the soft tissues closes up around the projecting wire almost as speedily as in a simple cut. Even under considerable tension, produced by daily tightening the "loop," the separation of the wire in my cases has been a slow process—not being accomplished under twenty or thirty days.

Case.—L. T., Enfield, N. H., 33 years old, married, and healthy—*ununited fracture* of the lower third of the right humerus. According to the patient's account the accident occurred in 1856, or about three years since. The fracture was received while at work with a threshing-machine, and was compound.

The case was under the care of a skilful surgeon, but without any apparent reason the bones failed to unite.

Seven months after the accident the patient went before the clinic of Dartmouth Medical College, where the operation of *drilling* (after Brainerd's method) was performed.

Getting no benefit from this operation, the patient, six weeks afterwards, went to Boston, where he placed himself under the care of Dr. Warren, in the Massachusetts General Hospital. Here a seton was introduced, which was retained thirteen weeks. The irritation produced by the seton was severe, and at last suppuration was so extensive and the pain so great that it was removed.

This operation was also unsuccessful, and in view of the failures, and the fact that the patient while young had suffered from *necrosis* of several of the bones of the lower extremities, an unfavourable prognosis was given, and the young man returned to his home.

Since that time nothing has been done in the case. At the present time (June, 1859) the limb presents the usual features of confirmed false joint. The arm is nearly useless, and is carried in a sling. The upper arm is very much shrunken, and somewhat scarred by operations and abscesses. The ends of the fragments can be freely felt, and they slip by each other to the extent of an inch and a half, in any attempt to move the limb.

The forearm is well developed, and in some positions, when a leather bracelet is worn about the fracture, the hand is useful. The general health of the patient is perfectly good.

Seeing nothing in the present condition or previous history of the case that could interfere with the success of the wiring operation, I suggested the plan, and on the 16th June the operation was performed in presence of numerous medical gentlemen of this town and neighbourhood.

Operation.—The patient being fully etherized, an incision about five inches in length was made over the fracture, on the outside of the arm, extending down to the bone. The ends of the fragments were found to be inclosed in a strong capsular ligament, which, on being opened, discharged about half an ounce of clear synovial fluid, having about the consistence and appearance of lamp-oil. This capsular envelop was dissected away, and the ends of the bones fully disclosed. This capsule was interspersed with numerous small osseous scales, which made it somewhat difficult to cut; and at the point where the membrane was attached to the bone were numerous rough projecting bony points, and ridges which probably marked the sites of the *drill-holes* formerly made. The end of each fragment was covered with smooth cartilage—the upper fragment exhibiting a sort of shallow cavity on its broken end, in which played the rounded end of the lower fragment, after the manner of a ball-and-socket joint. The cartilaginous covering was dissected from the ends of the bones, and the surfaces deeply scarified with the bone-forceps. From the lower fragment a projecting spike of bone was also removed. With a common small sized gimlet several holes were then bored obliquely through each fragment. The instrument entering on the periosteal surface about an inch from the extremity, and coming out at the end.

Through one set of these holes was then inserted a stout wire (made by twisting together four strands of the largest silver wire as used by Simms), the extremities of which being twisted by strong clasp forceps, brought the ends tightly together in the loop, with the wire projecting from the wound.

The external wound was then brought loosely together by adhesive plaster, and the limb laid into a right-angle gutter splint, made of tin for the purpose, and extending from the axilla to the fingers. Water-dressing was applied over the wound.

June 17. Saw the patient at 9 A. M.; complains of some pain in the arm and shoulder. Some heat and swelling in the neighbourhood of the wound. Passed rather a restless night, although he took half a grain of morphia in the evening. Pulse, 105. Added infusion of opium to water-dressing, and prescribed rigid diet, mucilaginous drinks, and morphia—p. r. n.

18*th.* General febrile symptoms abated. Patient comfortable. Changed dressings. Arm considerably swollen; but wound looking well. Treatment continued.

28*th.* The case has progressed favourably. The wound is now discharging freely about the wire, and is closing at the extremities. The swelling in

the limb generally has much diminished, though a prominent ridge has been thrown out at the part embraced in the wire-loop. The wire having become somewhat loose, it is twisted as much as the patient can easily bear.

July 25. To-day, while tightening the wire, it became detached, and was removed with the loop unbroken. The external wound has closed, excepting at the point where the wire projected. A well-formed callus seems to embrace the fracture, and the arm can be lifted from the splint without displacement, though the connection is yielding.

August 6. Since the last record, two or three small bits of bone have been discharged from the wound. Swelling has nearly disappeared, and the wound has closed, excepting a mere point. The prominent callus is also disappearing, though the consolidation is now so great that the bone will sustain the weight of the forearm without bending. Removed the splint and applied a *gum* and *chalk* bandage from the hand to the axilla, cutting a small aperture in the bandage opposite the wound for the purpose of dressing, &c.

8*th.* Having ascertained that the stiff bandage is well borne, dismissed the patient, with directions to begin to use the hand after two weeks, and to wear the bandage as long as it fitted closely, or the arm needed support.

The present condition of the limb will be seen by the following extract from a letter, dated December 7th, from Dr. B. F. Skinner, his attending physician :—

"I examined T.'s arm day before yesterday. It is evidently firmly united. He has worked constantly with a one-horse team for two months or more, drawing wood, gravel, goods from the depot, &c. He says the arm feels as strong as the other. I am unable to see why the cure is not complete."

RUTLAND, VT., January 7, 1860.

ART. V.—*Case of Ununited Fracture of the Humerus. Failure of Brainard's Operation, and of the Seton.* By C. S. FENNER, M. D., Memphis, Tenn.

ON the 4th of May last I visited, at Germantown, in consultation with Dr. J. M. M. Cornelius, his attending physician, Mr. William Walker, a gentleman, 35 years of age, who, in the month of December, 1858, was thrown from his buggy, and received a fracture of the left humerus. He was seen immediately by a physician, and the arm put in splints and tightly bandaged, so as to give him great pain. After a few weeks, no union taking place, the case came under the charge of Dr. Cornelius, who, with

the view of exciting inflammatory action, placed the patient under the influence of chloroform, and forcibly rubbed the ends of the bones together, then, carefully adjusting them, applied splints and bandages to keep them in apposition. No benefit resulted from this treatment.

On examination, I found an oblique fracture, commencing four inches above the external condyle, and extending four inches up the humerus. The crepitus was distinct, the ends of the fragments easily separated, and no ligamentous union or rounding off of the ends of the bones. His general health had always been good. We determined on "Brainard's operation," as the one most simple, and at the same time promising the best chance of a cure. Placing the patient slightly under the influence of chloroform, I punctured with a small bistoury the soft parts about two inches above the end of the upper fragment, introduced the drill, and bored the upper and underlapping lower fragment. I then withdrew the drill from the bone, but not from the soft parts, and perforated the bones at another point, and repeated it, thus making three perforations through each fragment. The drill was now withdrawn, a piece of adhesive plaster applied to the wound, and the arm carefully put in splints and bandaged. Ten days after I visited Mr. Walker again, and finding he had suffered no inconvenience from the first operation I repeated it, introducing the drill at another point through the soft parts, and making three perforations through each fragment. This time the operation, after two or three days, was followed by considerable pain and throbbing, which Dr. Brainard thinks an indication that the process of bony union is going on. In thirteen days I again repeated the operation; this was followed by but little pain, and after waiting seventeen days, and finding no enlargement of the bone, or evidence that the formation of callus had begun, I operated with a larger drill, perforating the bones in every direction. The parts were then carefully adjusted, and the splints and bandages reapplied. No benefit resulting from this effort, we deemed it useless to persist further with the drill, as we thought we had given it a fair trial. So, waiting until August 9th, we determined on the use of the seton. I passed a piece of silk tape, half an inch in width, through the arm, between the fragments of bone. After remaining in twenty-three days, during which time the patient did not leave his bed, at the request of Dr. Cornelius I again visited our patient, and found such an amount of swelling, extending from below the elbow to the shoulder, and so much constitutional disturbance, that we considered it unsafe for the seton to remain longer, and so removed it. No benefit was derived from this treatment.

We now spoke of the propriety of excising of the ends of the bones; but the patient, after fully understanding the nature and extent of the operation, and the probability of a failure, did not feel willing to submit to further operative proceedings. From the obliquity of the fracture, it would have required unusually extensive incisions to have turned the ends of the

bones out, so as to have sawed them off; and then to have given each end a directly transverse surface, the arm would have been shortened to the extent of the obliquity of the fracture.

Cases of pseudo-arthrosis are frequently met with that resist every plan of treatment with which we are acquainted; therefore, it becomes a matter of interest to determine which plan offers the best and safest prospect of a cure. This can only be decided by experiment; hence, the report of every case, and the treatment adopted, whether successful or unsuccessful, is of interest, with the view of determining that point.

ART. VI.—*Exsection of the Right Superior Maxilla, and a portion of the Left, for Disease of Long Standing.* By WM. H. GOTT, M. D., of Readstown, Wisconsin. (Communicated by JAS. M'NAUGHTON, M. D., of Albany, N. Y.)

I WAS consulted in April last by Peter Guist, aged twenty-three years, respecting a tumour of the right superior maxilla. From his own account, it appears that while residing in Morgan County, Ohio, ten years ago, a tumour of the size of a small pea was observed to be growing on the under surface of the jaw, behind the canine teeth, and attached to it by a delicate pedicle. After the lapse of a year or so, when the tumour had attained to the size of a small marble, a physician was consulted, who advised its removal without delay; it was accordingly snipped off by the scissors close to its point of attachment to the bone.

For three or four months nothing more was seen of it, and the hope was indulged that its removal would prove effectual; it, however, shortly reappeared at the site of the attachment of the pedicle to the bone, and increased in size gradually, so that by the end of a year, the alveolar process as far as the first molar tooth had become implicated.

In the fall of '51 or '52, he emigrated to Badax County, in this State. In '54 or '55, he submitted to an operation at the request of a physician, under the promise of a speedy and permanent cure. The operation had recourse to, as far as I have been able to learn, consisted in the extraction of a few of the teeth and the shaving off of the body of the tumour from the bone.

The hemorrhage following this operation was very profuse and was with great difficulty controlled; no benefit was experienced, for the tumour soon began to enlarge with more rapidity than formerly.

The foregoing history is imperfect in its details, but is as full as could be obtained from the patient. He first came under my observation in the

early part of the summer of '57, soon after I commenced practice in Readstown, and his condition both general and local, was noted as follows:—

A tumour, commencing just below the orbit, with a slightly elevated and abrupt edge, extending downwards and projecting out of the right side of the mouth, which is drawn to the same side, distends the right cheek to a great degree, giving rise to deformity, and also much inconvenience to the patient; the entire palate portion of the maxillary and palate bones is involved in the morbid growth, which projects from the hard palate to such a degree as to force away the lower from the upper maxilla, and thus to render it difficult for the patient to masticate his food properly.

The tumour is distinctly limited to the jaw, and does not extend beyond the limits of the bone in which it has evidently originated; is painless to the touch; firm and unyielding, except at the conical-shaped point where it projects from the mouth; a sensation of deep-seated elasticity is here imparted to the finger, as if the tumour was covered by a thin shell of bone which yielded when pressed upon, and appeared to recover itself upon the removal of the pressure.

Its surface is nodulated, and covered with a thick white membrane, over which numerous small bloodvessels ramify, with one or two spots of superficial ulceration which furnish a little pus; pressure on the hard palate of the left side and on the tumour on the right side detected no yielding of the bone; in fact, in the latter situation, the sensation of bony hardness was imparted to the finger; the teeth, three or four of which remain, have become irregular and projecting, but are still firm in their sockets.

The growth of the tumour thus far has been slow, unattended either by pain, hemorrhage, or any appreciable derangement of the general health.

The patient was advised to submit himself without delay to the operation of excision of the greater portion of the maxillary bone, as the only course which would afford him any chance of relief. He, however, objected to undergo such an operation, and for no very satisfactory reason, and consequently passed temporarily from under my observation.

In April last he reapplied to me, fully satisfied his case would soon be beyond surgical relief if let alone, and willing to undergo any operation which would afford him a chance of his life. A careful and minute examination of his case was had, when it was found that the chances of a successful result were not as favourable as at the time of his first application. The tumour had made considerable progress, and was now found to embrace the following parts: Commencing at the inner angle of the eye, its abrupt and well defined edge, which at the first examination two years previous, was felt half an inch below the margin of the orbit, was now perceived to be on a level with it, and to reach to the junction of the maxillary with the malar bone, also to have encroached upon the side of the nose; the alveolar ridge of the left maxilla as far as the first molar tooth

was found to have become implicated in the disease, as well as a portion of the hard palate of the same side to about one-third of its extent.

The tumour in its general appearance had not changed materially, excepting in its increase in size, and in the fact of its surface having become somewhat more nodulated with a greater number of vessels of larger size ramifying over it.

With the view of ascertaining, as far as possible, the nature of this growth before resorting to any operation, the exploring needle was introduced into its most prominent part, where the sensation of indistinct fluctuation was first perceived, and it appeared to enter a softish mass without resistance; it was then found that a considerable degree of *lateral motion* could be given to the instrument; a small quantity of blood followed the withdrawal of the instrument; the remaining portions of the tumour were explored in the same way, but into which the needle entered not without force, and into a dense substance where no *lateral motion* could be obtained, except with such a degree of force as would have been unjustifiable to employ.

For the past few months his general health has been on the decline, and is still so, owing partly, as he thinks, to the imperfect mastication of his food, and partly to its quality, it having been of a liquid nature mostly for some time; he is now somewhat emaciated, and incapable of the physical exertion necessary to earn a livelihood.

I was well aware of the importance of a correct diagnosis respecting the simple or local and non-malignant nature of this growth, also of the inadvisability of resorting to an operation should this be judged a case of medullary sarcoma. The diagnosis as to the growth being of the first variety was based upon the following facts:—

1st. There has been but little constitutional derangement attending the growth and development of this tumour from the first; that which has of late manifested itself is undoubtedly due to causes independent of malignancy.

2d. The tumour is distinctly limited to the maxillæ, with well defined boundaries, and unlike a malignant one, which for the most part incorporates itself imperceptibly with surrounding parts. Its slow uniform growth, its firm unyielding nature (except at one point), the absence of pain at all times and hemorrhage, its lobulated surface, and the fact that no fungous growth has sprouted from the superficial ulcerations, nor any fetid discharge escaped from them; these circumstances, independent of the light derived from the employment of the exploring needle, combined together, render it probable that the disease is local (if not entirely so, and if from a simple, it has insensibly merged into a malignant form in part, such a change is as yet in its early stage); and that the performance of an operation without delay would be in accordance with good surgery, and followed by a permanent cure.

The simple nature of this tumour having been determined upon, I advised the patient to be operated upon at an early day, and the 4th of May, 1859,

was fixed upon. After a few days of preparatory treatment the operation was performed as by appointment, as follows: After partial anæsthesia had been induced by a mixture of equal parts of chloroform and ether (it was not deemed prudent to put the patient under the full effect of the anæsthetic, from fear that death from strangulation from the blood passing into the windpipe might take place), an incision was made from the external angular process of the frontal bone to the corner of the mouth. A second was then carried from the nasal process of the superior maxillary bone to the mouth near the mesial line. The tumour was now laid bare, by dissecting upwards the tissues of the cheek to the orbit into which the dissection was pursued, and its tissues detached from the floor.

The nose was next separated from the bone and held over to the left side by an assistant. This dissection completed, the operation was suspended for a few minutes, in order to secure the arteries, and to allow the patient to recover from the effect of the anæsthetic.

The tumour was now fully exposed to view. The operation having been resumed, the malar bone was divided near its middle by the metacarpal saw—then the nasal process of the maxillary by the bone-cutters and chisel; the saw introduced into the nostril, the alveolar ridge was sawn through, and the hard palate to the attachment of the velum palati. The tumour being now forcibly moved and loosened by the finger introduced from behind, was lifted out after a little delay in dividing its remaining attachments. The large cavity thus exposed was immediately filled with small sponges to arrest the profuse hemorrhage, which done, the implicated portion of the left maxilla was separated by the saw and bone-cutters.

The patient, much exhausted from loss of blood together from the shock of the operation, was allowed a little brandy with thirty drops of laudanum, which, with the application of dry warmth brought about gentle reaction in a little while. The wound was allowed to remain open exposed to the air for nearly an hour, the more to guard against secondary hemorrhage, when the cavity was filled with balls of lint and the flap stitched up, and the patient removed from the table to his bed. The only dressing applied consisted of pledgets of lint wet in cold water. Three or four hours after the operation several small clots of blood were thrown off from the stomach, when an additional dose of opium was given to allay restlessness and pain. In forty-eight hours after the operation the sutures were removed and union by the first intention had taken place throughout the incisions. Under the free use of animal broths the patient gained in strength so rapidly as to be able to sit up out of bed on the eighth day, and at the end of another week to be about on his feet.

The general condition and health of the patient six weeks from the time the operation was performed, when he passed from under my care, appeared to be good, and were improving from day to day. The partial paralysis of the cheek consequent upon the division of the branches of the facial

nerve gradually wore away, and its sensibility became fully restored. At the time of writing this report, nearly four months after the operation, the general health of the patient is better than it had been for the past year or two, and he is now engaged in his vocation, that of a farmer. His articulation is very distinct, and the process of mastication can be performed without difficulty.

I will now describe the appearance of the tumour as accurately as possible. Its weight three or four hours after the operation, was seven ounces and a half. Its greater portion was composed of a dense, more or less fibrous substance of a whitish and yellowish white colour. Its central portion, where the indistinct fluctuation was perceived before removal presented a very different character, and was made up of a structure of a soft medullary nature, and very vascular. Beside the thick membranous capsule investing the tumour, and beneath it, a thin lamina of bone was spread out over its circumference, constituting the walls of the antrum.

Note.—In a letter to Dr. M'Naughton, dated August 29th, 1859, Dr. Gott adds the following postscript:—

"I have seen my patient several times lately; he says his health is better at present than it has been for a year or two past. He is now earning his own livelihood at his occupation, that of a farmer. The parts have entirely healed, and with the exception of some falling in of that side of the face and a slight drawing down of the lower eyelid, no evidence that such a tumour had been removed from the face would exist."[1]

ART. VII.—*Exsection of the Superior Maxillary, together with the Malar and Palate Bones of the Right Side. Recovery.* By W. J. LEAKE, M. D., of Yazoo City, Miss.

THE subject of this operation was a negro man, aged about 25 years, the property of the Hon. A. P. Hill, of Madison County. He was placed under my charge about the 1st June last. At that time a large tumour occupied the right side of the face, the right eye being much protruded, the right nostril entirely obstructed by the tumour, which had also dislocated the os palati of that side, together with the corresponding palatine process of the maxilla along the posterior two-thirds or three-fourths of the mystachial suture—the anterior part of the suture being intact. The molar and bicuspid teeth of the right side had been removed some time previously. A foul discharge issued from the right nostril, and from an opening in the alveolar

[1] It is to be hoped that Dr. Gott will report the subsequent history of this case, as too short a time has elapsed since this operation to determine its result.—ED.

aspect of the tumour. The opening would have admitted the end of the little finger, being partly occupied by a tough, white substance, which came away in a few days, and proved to be a portion of the periosteum which had lined the antrum. The end of a silver male catheter was passed about an inch up the opening. The patient was much emaciated, and so much debilitated that his gait was tottering and unsteady. The pulse was feeble and frequent. His mental condition approached imbecility; appetite impaired. I have not been able to get a satisfactory history of the case previous to the time it fell under my observation. As nearly as I could ascertain, the disease commenced some two years previously, at which time the patient complained of great pain in the teeth and jaw. The teeth were extracted, but no relief obtained. When brought to me he did not complain of much pain.

For the relief of the patient, an operation consisting in the entire removal of the tumour was clearly demanded; but his condition at the time forbade any surgical procedure. He was, therefore, put upon a tonic, cordial treatment, with a nutritious diet, in order to prepare him for an operation at a future time. The local treatment consisted of detergent and astringent injections of the right nostril, and opening in the tumour. Under this treatment he gradually improved; the opening in the tumour filled up by granulations; and by closing the left nostril and mouth, and making a forcible expiration, air passed through the right nostril with a hissing sound; but a probe could not be passed.

The patient having improved sufficiently, the operation was performed on the 18th of August, and was in nearly all its steps the one advised by Mr. Liston. My partner, Dr. Barnett, and Drs. Kidd, Wilson, and Peake, were present. A cut, commencing near the inner angle of the eye, was extended down the side of the nose, beneath the ala, to the ridge bounding the sulcus of the lip, making the division of the lip through that ridge. Another cut, commencing at the same point with the first, was carried beneath the eye, in a line with the fibres of the orbicularis muscle, to a point corresponding to the transverse facial suture. The ala of the nose was next cut up from its connection with the tumour, and the soft parts dissected off the tumour and turned back. In order to command the tumour posteriorly, it was found necessary to make an additional cut, commencing at the terminus of the last, and extending along the line of the zygomatic process of the malar bone, something over an inch. The lateral incisor of the right side having been extracted by H. Lawrence, D. S., I proceeded to notch the alveolar process with Liston's cutting pliers, and to divide the palatine process through the roof of the mouth. The nasal process was then severed, followed by the division of the zygomatic process of the malar bone, and, lastly, the malar and frontal bones were severed through the transverse suture. The bony connections of the tumour were next all separated. The forceps was now applied, one branch in the orbit, the other in the mouth,

and an attempt made to dislodge the tumour. In this, however, I failed, the tumour crushing under the pressure of the instrument. It was found necessary to pass a broad chisel behind the tumour, after which it was dissected out with the knife and curved scissors. The lips of the wound were brought together, and secured by the interrupted suture, except through the lip, which was secured by two silver pins. The cheek was stuffed with a silk handkerchief.

Very little blood was lost during the operation. Not exceeding f℥xvj, I think. No vessel required a ligature.

The operation was done with the patient in the sitting posture, under the influence of chloroform; the head being supported by an assistant.

On account of the still rather feeble condition of the patient, it was deemed unsafe to make a profound anæsthetic impression upon him with chloroform; consequently, the operation was frequently interrupted by the struggles of the patient, and delayed by the repeated administration of the anæsthetic. Notwithstanding the struggles of the patient, he had no recollection of the operation when it was concluded; and shock to the nervous system was effectually prevented.

On the sixth day after the operation the sutures were all removed, and the wound found healing by first intention, except half an inch beneath the external angle of the eye, where apposition had been disturbed by the dragging downwards of the cheek.

For two or three days, commencing about the second day after the operation, the patient had some fever, and complained of some pain in the head; but made a rapid recovery, and about the ninth or tenth day was walking about the yard.

There was difficulty in deglutition after the operation, but much less than I anticipated. There was also great difficulty in articulation, but it gradually became better, and after the adjustment of a gold plate, by Dr. H. Lawrence, the boy articulated very well.

I was informed a few days since, by Judge Hill, that the boy's health was unexceptional. So far there seems to be no disposition to a return of the disease.

As to the character of the tumour, I cannot pronounce confidently. The bones had been absorbed to a great extent, leaving little more than mere shells or scales. The tumour seemed partly granular, and partly fibrous, with an admixture of fat. In its removal, I cut, in the language of Mr. Liston, "beyond the disease."

The incision through the lip was done along the line bounding the sulcus, thinking that the deformity would be less. Whether it is so or not, I am unable to say; but the *extent* of the cut was somewhat less than it would have been had it been carried beneath the column of the nose, thence through the sulcus.

For the purpose of stuffing the cheek after this operation, a thin gum-

elastic bag, arranged so that it might be inflated after its introduction, would be an improvement on the present plan of stuffing with lint. In its flaccid state, it would be easy of introduction; and, having discharged the air from it, it could be easily removed—while its texture would prevent it from being caught on any salient point of bone. Besides these advantages, it would not absorb the secretions of the mouth and cut surface; and, consequently, would be more cleanly and comfortable.

In performing the dissection beneath the globe of the eye, I derived advantage from the use of an instrument, by which this organ was shielded from danger, and at the same time held up, so that I could see how and where to cut. The instrument was made by an ingenious blacksmith, after a model cut from pasteboard, and moulded, while wet, to fit the floor of the orbit. It is of silver; in shape much like a teaspoon, with its bowl truncated, and the handle curved in the shank, so that it stands at nearly a right angle with the bowl, having its extremity curved, so as to rest securely over the thumb. It is held between the thumb and first two fingers of the hand, while the remaining fingers rest firmly on the forehead of the patient; the assistant inserts the truncated bowl beneath the globe, as the tissues are divided by the knife.

ART. VIII.—*Animal Chemistry, and its Relation to Therapeutics.*

By J. L. TEED, M. D., of Mendota, Ill.

IN nothing is the science of the present day so different from that of all former periods with which we are acquainted as in its utilitarian tendencies, and in its requirement of practical demonstration; and this tendency has been gradually advancing in proportion as it has demonstrated the superiority of a foundation established on fact, to one resting merely on theory or hypothesis. The acute mind of Magendie was long since convinced of the insufficiency of the latter, even although propounded by a Bichât, and of the absolute necessity that physiology should be the offspring of experiment alone, and physiology soon found in animal chemistry the only true exponent of its phenomena. The chair of experimental physiology in Paris is the result of that conviction, and M. Magendie's pupil, M. Claude Bernard, is giving fresh demonstrations of the correctness of these conclusions. The researches of M. Brown-Séquard are further proofs of the same truth; and the doctrines elaborated by the researches of these, and others in the same direction, are as much the property of animal chemistry, as that the forces which operate on inorganic matter belong to the general chemist. While animal chemistry embraces the nature and composition of the animal solids

and fluids, it includes also the laws and sources of their formation and the forces by which they are regulated and maintained or removed beyond the sphere of the organism.

The researches of the German schools, however, have perhaps been productive of the greatest results. Among these it would be invidious to particularize, with the exception of one, who may be said to be the father of this branch of science, and the name of Justus von Liebig should be a household word to the student of nature, whether of the animal, vegetable, or mineral kingdoms.

To his individual mind animal chemistry owes much—very much; and to his teachings and example, and to the direction which he gave to the minds of so many others, a very large proportion of our present knowledge is due. Deduct the teachings of the last twenty-five years contributed by Liebig and his pupils, and there remains but little of animal chemistry, over what was known twenty-five years ago. If, also, the advance of science in the past quarter of a century has been so great from a beginning so numerically small, what may be expected as the result of the investigations of the next quarter of a century, with its ever-increasing army of investigators; then it was no very difficult thing to keep pace with the general improvement, now the fresh researches in one branch alone constitute a study of themselves, whilst the whole are absolutely necessary to enable the physician to do his duty to his patient and justice to the profession of which he is a member.

We must not forget, however, that the science is yet too little advanced in the details of all its branches to furnish us with that sure and unerring light which leaves the physician nothing further desirable to guide him in the mysterious paths of therapeutics, and to enable him at all times to combat successfully the ravages of disease. Nor must we hope that this result will ever be gained. To avert death from a mortal is a simple absurdity; fit, indeed, for the boastings of a Paracelsus, who died with his "elixir vitæ" in his pocket, a monument of folly; but to postpone the event of dissolution twixt soul and body; to cut short in their commencement those series of morbid actions and changes, which, if continued, would terminate in death, so that this last may be the result only of the laws of being, or, where this is impossible, to smooth the passage to the grave, are the great ends which the physician proposes to accomplish, and the decreasing mortality of many diseases, and the increasing duration of human life, testify to the advancement of scientific or rational medicine.

Now, in what does the rational physician differ from the empiric? The latter uses a remedy or a course of treatment, because in such cases it has been found serviceable. Experience has been his guide; and to this we do not object, when in any case we have reached the limits of scientific or rational knowledge. This has been the discovery and ground of introduction, and consequent use or disuse of nearly all the articles of our materia

medica; nor do we propose to throw away this guide in the treatment of disease, until we have a better to substitute for it.

But when experience has recommended a certain course of treatment in any particular disease, what shall we say of the unsuccessful cases? They are not recommendations of the treatment; but they must not be thrown aside. The experience derived from them may furnish no indications for the next case; no ground for an alteration of the treatment; and to treat the next case in the same way, is to fly in the very face of that principle vaunted as a guide. The empiric, however, has nothing left but to pursue the same course. In all such cases, and every practitioner of medicine and surgery knows their frequency, bringing with their recollections feelings of sadness and vain regrets—in all such cases a plan of investigation which promises to throw a gleam of light across the darkness, should be hailed with delight and welcome; and the well-balanced mind will avoid the two evils of expecting too much from it on one hand, and rejecting a valuable auxiliary on the other.

The rational physician will, therefore, use experience as his guide, when he has no better; but he will at the same time endeavour to extend his knowledge of the modus operandi of remedial agents, of the nature and properties of the organism, and of the laws governing it in its whole and in its varied parts, and of the variations induced by external or internal causes. By these means experience, when correct, will be confirmed; when erroneous, will be corrected.

As a whole, therefore, and comprising all these branches of research, animal chemistry presents itself to the rational physician, offering him a reliable guide in all the cases over which its investigations have been carried; and if these be yet few, their importance demands attention to the subject, and is the promise of a future and more abundant harvest.

Animal chemistry, as has been before remarked, is so very closely allied to animal physiology, that the latter may be said to be embraced, at least to a very considerable extent, in the former; in the same way as the forces which cause changes in inorganic matter belong to inorganic chemistry, the fact of these forces being more numerous, more complex, and less easily investigated, is no sufficient ground for their exclusion.

The branches, therefore, belonging to animal chemistry are that portion of embryology which treats of the primary constitution of the embryo and its appendages; the period and manner of appearance of fresh elements in it; the successive steps in its formation, manner of growth, sources of nutrition, and internal changes; distribution of effete matter, if any; modifications from abnormal or other causes, producing alterations of development, disease, or death. In this department of the subject very little is yet fully made out, as regards the chemical changes and modifications undergone by matter while it is being converted into the perfect embryo; these,

however, are most important, and are receiving a large share of investigation.

The chemistry of the tissues is another and an important division of this subject, and one which hardly needs more than mention, as it must be evident that the most minute acquaintance with the composition of any body, in its whole and in its parts, is a necessary prerequisite to its complete study.

The metamorphosis of tissue is so intimately connected with two other divisions, viz., the chemistry of food and the chemistry of the excretions, and when to these have been added the chemistry of the secretions and of nutrition, the importance of the subject looms up before the mind in its vastness and sublimity; the force of the nervous system capping the whole, and impressing the reflective mind with its unspeakable grandeur.

Follow on, then, the mutations from ordinary causes which constitute disease, the effects of extraordinary ingesta, *i. e.*, of those not food, such as of medicines and poisons, from cold water to the most active and deadly matters, and a subject is mapped out having no parallel amongst material things in its importance to the welfare of humanity.

A great difficulty in the outset of this subject, which presents itself to the investigator, as he will find the matter treated of by various authors, is the assumption of "means" as standards—take, for instance, the composition of the blood: one analysis is made, giving so many parts by weight as the amount of water; another is made, giving a result somewhat different, and so on with the other constituents—the mean is then calculated for each constituent, and received as the proportional quantity for such constituent in the condition of health, or of any one disease, as the case may be, and so on through the secretions and excretions, &c. There is a very important reason why this method of investigation is injurious, and even fallacious.

We will allow that the composition of the body, or of any part of it, does vary in different individuals; yet in every individual there are four points which must be complementary of one another to make up the whole, and have therefore fixed relations to each other: these are first the composition of the body itself, fluids and solids; the composition of the food, that of the excretions, and the metamorphosis of tissue in nutrition and secretion. The weight of the body taken at any certain time, say January 1st plus the weight of food and drink taken and air inspired up to say February 1st, must equal the weight of the body on February 1st plus the weight of the excretions from January 1st to February 1st. It is also found that any alteration in diet will produce a corresponding alteration in the constitution of the excretions; it must, therefore, produce a corresponding alteration in all the parts lying between the food, digestion, and the excretions; nor should we *à priori* expect to find the *tout ensemble* of a man living on a succulent vegetable and fruit diet, cereals and animal matters, milk, eggs, &c. &c., being only very sparingly used, or entirely

abstained from, the same as in the case of another man living almost or altogether on cereals and flesh. The particular diseases to which the followers of certain dietaries, whether from necessity or choice, are subjected, or from which they are exempt, are striking illustrations of the same fact. Connect the Icelander feeding on blubber with his freedom from phthisis, and liability to diseases of the skin and bowels; the eaters of maize in hot countries, with the liability to skin disease; the liver on salt food, and the prevalence of scurvy; the butcher and publican, and an immunity from phthisis; and so on through examples which must occur to all, and the intimate material connection between these four points become strikingly evident.

If such then be the fact, it is evident that in any given case the chemical constitution of the blood requires an acquaintance with the food out of which that blood has been formed, and also of the excretions during the time, by which its formation has been regulated, to say nothing of the particular growth of this or that tissue.

Again, as there are four excretions—those of the lungs, kidneys, bowels, and skin—and as these are complementary of one another, according to the activity of each, varying continually in the same individual, even while using a diet the same both in quantity and quality, according to the ever-varying impressions of external causes, such as rest, motion, heat, cold, &c., as also from internal causes of extreme mobility, it will necessarily follow, not that urine or sweat, or expiration or feces, have a variable composition, but they have a composition varying according to fixed laws, according to the complementary variations of each particular case, *i. e.*, that their composition is fixed, the circumstances of their formation being the same; and in order that the analysis of either excretion may be made of much value, those of the other three, of the food from which they have been derived, and of the blood or medium of formation also, should be given.

The main object in the study of animal chemistry should be to reach the laws under the operation of which the various changes in the body occur first in those of more general application; and then, as the modifying circumstances are ascertained, those of more limited or special range. The special composition of such an excretion, of such a fluid, of such a solid, is of far less consequence than the full knowledge and comprehension of the circumstances under which it was formed, and of the laws which regulated the due and proper fulfilment of those functions of which the substance in question, whatever it may be, is the result.

For instance, take the urinary secretion; suppose we know its normal composition most accurately, and on examining a sample we find an alteration in some most important particular; thus let the urine under examination contain a large amount of sugar. The first question which arises is, What are the laws governing the formation of sugar in the economy? Where is it formed? From what is it formed? What are the residuary or

complementary products of its formation, or is it itself a residuary product? Whence are its derivatives obtained? What should be the proper quantity formed, if any? What is its normal destination and the purpose it is intended to fulfil? Is its appearance in the urine the result of its non-disappearance elsewhere, or the result of excessive formation, or the result of previous retention? &c. &c. Each one of these questions, though most physiological in itself, requires a chemical investigation to supply the answer. The same course of inquiry reaches far and wide through the whole course of therapeutics; and let any one consider these questions carefully, then look at the empirical treatment of diabetes mellitus, with the usual termination of the case, and answer to himself, How often would the result be different if these questions could be satisfactorily answered? This example is a striking and prominent one; but many are the cases in which a large amount of suffering might be relieved more effectually than at present, were the knowledge of this subject more extended.

The chemistry of food and drink is a very important branch of this subject. From the milk at its mother's breast to the multifarious diet of mature life has to be manufactured a constant stream of nutritive element, supplying the various tissues with their means of nutrition and growth. The processes by which these articles of food are converted into blood are of the first order of importance, and closely connected with them are the means by which superfluous or otherwise disorderly elements are removed. The body may be said to be made up of certain elements, C,O,H,N,I,P,Cl, K,Na,Fe, and some few others of less importance, in varying proportions, the matters excreted from it are composed of the same ingredients in more definite and fixed combinations. The food must, therefore, have the same elementary composition, and in the same proportions, as the excreted and retained matters; and any other element, if foreign, or any one of these, if superfluous, must either be rejected, or cause a greater or less alteration if retained. If rejected, it may undergo decomposition in the system, or may give rise to decompositions, fresh groupings of elementary atoms occur, and the processes of life suffer derangement from the presence of foreign bodies.

In health, therefore, it is important to know the composition of the food consumed, in order to be enabled to calculate on a harmonious working of the whole system, in its varied parts of digestion, nutrition, and secretion, and to be able to supply any particular emergency which may arise from extraordinary circumstances. But of how much more consequence is this in disease. How important to know how much and what kind of nourishment should be supplied to meet the wants of the system and leave no surplus, the nidus of further mischief. How important to be able to adjust the kind of food supplied to the assimilating powers of the invalid. How often in chronic cases do we find that a depraved blood stream is the cause of the evil, having its *Fons et origo* in some mal-adjustment between the food taken and the processes of assimilation; when, having gently increased the

excretions for a short time, so as to remove any accumulation of peccant or ill-assimilated matter, we slightly shorten the supply of food, modulate its quality according to the circumstances of the case, use some gentle alterative, and find our attentions rewarded by the grateful patient becoming a confiding friend? Were this subject more investigated, and better understood, the public would never turn homœopathic, to avoid being drenched *usque ad nauseam*, and patients would soon understand that the advice of a physician is often of more value than his medicine.

The changes undergone by the food in digestion have been subjected to much investigation, and considerable light has been thrown upon them. Indeed, on reading some authors, it might be supposed that our knowledge of this subject was complete, or nearly so. This, however, is by no means the case; and the changes induced in nearly all kinds of food, before they are converted into serum and corpuscles, are but little more than conjectured. The difficulty attending the whole investigation is so immense, owing chiefly to the extreme mutability of the matters formed, and the impossibility of obtaining them in an isolated state, by our present methods of analysis; our inability at present to measure the effects of nervous influence on the production of healthy or morbid transitions, together with our inappreciation of slight disturbing causes, that our knowledge is yet but little more than inceptive. We have, however, this encouragement, that if so much may be done with so little knowledge, what may we expect when our acquaintance with the subject is more extended, and what inducements does it hold out for its assiduous cultivation.

The relations of animal chemistry to nutrition and growth is most intimate and important; the body increasing in weight, in different proportions in its different parts, requires an attentive consideration; while in mature life the due adjustment of its varied constituents is necessary to full and continued vigor, with a strong resisting power against disturbing influences. Errors in nutrition lie at the root of many diseases, and the most successful treatment of one of the most destructive, scrofula in its varied forms, is a treatment almost entirely based on this foundation, with reference to assimilation and diet.

The chemistry of the excretions has received the most attention, chiefly, perhaps, from these being so very sensibly altered in disease, and the readiness with which they have been received as exponents of the morbid changes going on in the system. Without wishing to depreciate their actual importance, they have received more than their relative share of consideration. They are most certainly intensely altered in morbid conditions of the system, and do afford most valuable indications of such conditions. But the idea of combining a certain state of any particular excretion with a particular condition of morbid action, and making that as the entire basis for treatment, has often led to most disastrous results, by withdrawing the attention of the physician from the system to a symptom, whereby the

disease has continued its course unchecked—fortunately for the patient if unaggravated by the treatment employed. Such an occurrence could never happen if all the outlets of excretion were attentively examined, and the compensating relations of the excretions themselves considered; then attention being paid to the parts retained as well as to those discharged, and to the sources from which these all are derived, would put the physician in possession of all the facts of the case, and lead him to a correct conclusion, both as to the nature of the malady and its treatment.

Diseases may be considered as grouped into certain families: thus, we may enumerate pyrexia or fevers; phlegmasia or inflammations; neuroses, or those which have an origin or seat chiefly in the nervous system. Besides which there are certain diseases of the chylopoietic viscera and skin, not, perhaps, capable of being classified under either.

In the case of the pyrexiæ the utmost importance attaches to a correct understanding of the chemical changes which should occur in health, and which do happen in the disease, and to the influence of remedial agents in preventing, counteracting, and removing those morbid products which keep up the disease, and by their presence and decomposing influences induce still further disorganization. The treatment of fevers is essentially a chemical process. We use evacuants to remove accumulations of effete matters, and thereby purify the residue; we act on one organ to relieve the system of matters which should have been discharged by another; we adjust our supplies of nourishment to the capabilities of the system to assimilate; we supply stimulants to maintain the nerve-force under depression; in short, all our proceedings are just as chemical as the mixing an ore with a flux to obtain the metal in a pure and separate state; or as the proceedings of the artist to produce his photograph or his daguerreotype. We examine the excretions with the view of finding their chemical constitution, and the knowledge of the chemical changes induced by remedial agents enables us to understand the success which follows seemingly opposite modes of treatment; the better we are acquainted with animal chemistry, with the greater facility shall we be enabled to adjust our treatment to the exigencies of the case, and the greater will be the success attending our efforts.

The knowledge of the *modus operandi* of our remedies is similar to the acquaintance with reagents of the chemist, and the more they are understood the less shall we be guilty of "pouring medicines of which we know little into a body of which we know less."

In the case of the phlegmasiæ the relations of chemistry to therapeutics is similar, although not quite so prominent. The formation of coagulable matter, and its prevention by means of mercurials, &c., offer a series of phenomena known to experience, but not capable of explanation by any chemical laws without the introduction of hypotheses, and in such explanations hypotheses are not admissible; and the antiphlogistic treatment is received on the same grounds chemically as the use of ferments, &c., in

which the knowledge of the fact is made subservient to our purposes, while the *modus operandi* still remains a subject for investigation. That portion of the treatment which relates to the febrile portion of the phenomena and the functional derangements may be referred to the remarks on the treatment of pyrexia.

The neuroses present still greater difficulties to the investigator, both with respect to the chemical changes in the tissues and the nature of the action of remedial agents. The action of the alkaloids, of the oxides and salts of metals, is enveloped in the deepest mystery. Yet, the use of iron, arsenic, silver, iodine, quinia, morphia, strychnia, &c. &c., is so well understood, that they are safe and reliable agents in the hands of the educated physician, and disease disappears so continually under their use, that any question of cause and effect ceases to be entertained. In all such cases there is a vast field open for research, and it will be only as the chemistry of the subject is cleared up, that our knowledge of the matter will be substantially increased.

The diseases of the chylopoietic viscera offer some of the most striking examples of the application of chemical knowledge to the treatment of disease, and many of the primary and secondary disturbances in indigestion are easily controlled in a manner perfectly in accordance with chemical facts. The use of alkalies in cases of acidity, of pepsine to expedite the process of digestion, of the hyposulphites to prevent fermentation with evolution of gas; to say nothing of the adaptation of food to the ability and condition of the digestive powers, or of the employment of exercise to promote the consumption of oxygen, and consequent evacuation of foreign matter, and of the other hygienic means, are striking examples of the advance made by rational medicine beyond the range of empiricism.

Chronic diseases of the liver and of the intestines are only in part amenable to chemical treatment, being mostly influenced by remedies used empirically. The same may be said of diseases of the urinary organs, and still more so of those of respiration and of the skin.

Yet, when we view the cases of spontaneous cure which so frequently come under our observation, and those cases in which "nature" accomplishes a cure in spite of our remedies, we cannot fail to be struck with the fact, that the conditions of health and disease are merely expressions of material changes, and that there are laws governing these changes taking place within the body of which we are yet entirely ignorant; and that it is only as our knowledge of the organism in all its parts and in all its workings becomes perfected, that we shall make real progress in the treatment of its diseases. Experimental chemistry must be our Œdipus in the solution of these problems.

ART. IX.—*On Possible Ultimate Causes of Disease.*

By M. C. LEA, Esq.

THERE are, perhaps, few branches of medical science which are surrounded by so many difficulties, or in which so little has been accomplished, as the investigation of the ultimate causes of disease. The subject offers a wide field for study, which would no doubt well reward the time and labor which might be expended upon it. Raspail, in spite of his eccentricities, made some curious and ingenious observations and suggestions, though he doubtless erred in looking too far for his causes, and referring too much to remote and insufficient agents, such as inhalation of sporules, seeds, &c., and ingestion of particles acting hurtfully by mechanical agencies and other similar accidents. Those to which it is here proposed to refer, are in their nature obscure and difficult of recognition, but of sufficient gravity to explain all the effects which may be supposed to arise from them.

It is possible that there may exist abnormal states of the system, in consequence of which the digestion of certain aliments may take place in an abnormal manner. It is not here intended to refer to indigestion which in many cases may even be a wholesome and beneficial effort of nature to prevent the assimilation of a particular kind of food which the actual condition of the body may render injurious, but to an action of a very different character. Food which may in normal conditions of the body yield products of digestion of the most nutritious and wholesome character, might equally, in certain unfavourable conditions of the digestive system, yield more or less active poison, which, though generated even in very small quantity, may gradually go on with a slowly increasing toxical effect until the whole system is disordered by it. Disordered digestive functions of this kind may perhaps be the key to many of those inexplicable changes of health, in which the system is gradually broken down without any visible cause.

One or two examples will be sufficient to illustrate the author's meaning, it not being his intention to enter upon speculations belonging less to chemistry than to chemical physiology, but rather to suggest how much invaluable information might be obtained by subjecting parts of the body after death by disease to a rigid chemical analysis with a view to detect the presence of poisonous substances generated in the body itself out of aliments innocuous in a normal condition of the functions of digestion.

Butyric Acid.—This acid is an active poison. M. Isidore Pierre[1] mentions a case reported to the agricultural society of Caen, in which a number of horses had suffered severely by drinking water out of a certain pool, two

[1] Comptes Rendus, Aug. 22, 1859. Ext. Chem. Gaz., Dec. 1859.

of the number having died in consequence. The analysis of the water of this pool, which was in the neighbourhood of a farmyard, proved the existence of butyric acid in a saline form in it, and other similar cases were ascertained. No other substance could be detected in the water which could have had a poisonous effect upon the animals. Some cider which had proved very injurious to the health of those who had used it, was found on examination by M. Pierre to contain considerable quantities of butyric acid, but no other substance to which the bad effects could be ascribed.

There is no reason to doubt that butyric acid might, under abnormal circumstances, be produced in the body in considerable quantity. Many substances which, under normal digestive functions may be favourably assimilated, might in peculiar states of the body, scarcely amounting in themselves to absolute disease, be converted into butyric acid, which, according to Leopold Gmelin, is produced under the following circumstances:—

Starch and sugar, in contact with proteine substances, are gradually converted into butyric acid, with or without previous conversion into lactic acid. Grape sugar in solution, which does not of itself ferment, may be made to do so by immersion of bits of paper previously exhausted by chlorhydric acid and water, with production of butyric acid. The residue from the manufacture of potato starch, which contains considerable quantities of starch, if mixed with small quantities of animal matter, undergoes fermentation in two or three days, with production of butyric acid. Large quantities of the same acid are formed when starch remains in contact with animal matters for a few days, and under other circumstances which might occur in the human system.

In confirmation of this view, it may be mentioned that butyric acid has actually been detected in the gastric juice, and in the matter from a cancer in the stomach. Butyric acid may even be in very small quantity an occasional or even normal constituent of certain parts of the body. But under unfavourable conditions of the digestive functions it may easily be produced in sufficient quantity to exercise a noxious influence on the organism.

Butyric acid is in all these cases an oxidation product, as is proved by the fact that the same substances, starch, sugar, gluten, &c., yield it by treatment with nitric acid, sulphuric acid and peroxide of manganese, or chromic acid. If, therefore, it could be demonstrated that any particular form of disease was occasioned by the presence of butyric acid, such disease might no doubt be successfully combated by deoxidizing agents, such as sulphur baths.

Cyanogen Compounds.—Animal matters decomposed by heat in the presence of fixed alkalies give rise to cyanogen compounds. The waste nitrogen of the system is chiefly eliminated as urea, isomeric with cyanate of ammonia. Under abnormal conditions of the functions active cyanogen compounds might be generated instead of the comparatively inert urea. As sulphocyanhydric acid appears to be in very small quantities a normal pro-

duct of the digestive functions, which may easily be seen by the action of a ferric salt upon the saliva,[1] it is by no means impossible that under favourable circumstances larger quantities of this acid might be generated. Upon the animal organism it acts, like cyanhydric acid, as a narcotic poison.

Formic Acid.—This acid is capable of being formed, under favourable circumstances, by a very large proportion of the substances which we use as food. Starch, sugar, gum, casein, fibrin, albumen, all yield it by the action of oxidizing substances, in most cases by treatment with sulphuric acid alone. That such a reaction is capable of taking place in the system is proved by the fact that the presence of formic acid has been detected in chopped human flesh. Should circumstances arise to give undue activity to the functions which produce it, the materials are everywhere most abundantly present in the system for the production of this highly poisonous acid.

Not only substances taken as food may, under peculiar circumstances, be converted into poison, but medicines administered may, by peculiar and unusual decompositions, be converted from substances comparatively innocuous into dangerous poisons. Thus calomel may, possibly, at times, under the influence of the free chlorhydric acid of the stomach, give rise to the production of a certain quantity of corrosive sublimate. In the experiments of Mialhe, quoted by L. Gmelin, calomel exposed to the action of free chlorhydric acid was converted in the proportion of from two to three per cent. to protochloride. This may perhaps explain the unexpected effects at times produced by the administration of that medicine. Chloroform might, by the substitution of oxygen for chlorine and taking up an atom of water, be converted into formic acid, the hydrated teroxide of the radical of which chloroform is the terchloride. This change actually takes place by the effect of the presence of potash. Assafœtida, under chemical influences, yields formic acid.

With respect to the production of poisonous substances by the abnormal digestion of food, much light might be thrown upon the nature of certain obscure diseases by the careful analysis of the gastric juice and other secretions during the continuance of morbid influences.

The phenomena here referred to, as possibly existing in certain cases, are not to be confounded with those well recognized cases in which certain substances not particularly noxious in themselves, as, for instance, uric acid and urate of soda, create and sustain disease by obstruction. In these cases

[1] This very remarkable fact first observed by Previranus, and examined by Gmelin, may be rendered very evident in the following manner: Place in the bottom of each of two test glasses, two or three drops of acid solution of sesquichloride of iron, and add to the one a teaspoonful of water, to the other an equal quantity of saliva. Even with so small a quantity of saliva the reaction is perfectly distinct, causing the ferric solution to assume the colour of sherry wine, while that diluted with water becomes almost colourless.

the amount of poisonous substance present is large, and could not well be overlooked. On the other hand, the author suggests the possibility that the production of certain active poisons, which may be naturally present in the system in very small quantity without injury, may be so far increased by the abnormal action of the functions of digestion as to occasion chronic or acute diseases.

ART. X.—*Plica Polonica, an Endemic Disease at the Island of "Anno Bom."* By ALEXANDER VEDDER, M. D., Assistant Surgeon U. S. Navy.

DURING a recent voyage to the southwest coast of Africa, in the U. S. Ship "Supply," we stopped at the small island of Anno Bom, for the purpose of obtaining fresh provisions for the crew, who had been deprived of their use for some sixty days preceding. This island is situated about eighty miles south of the equator, and at a distance of two hundred from the nearest land of the African continent. It is of a conical shape, rising towards the centre into numerous lofty peaks, and may be about thirty miles in circumference. From its position, so near to the equator, and the considerable elevation of its highlands, which rapidly condense the atmospheric moisture, the climate, especially of the low land bordering the sea, is necessarily very hot and damp, being enveloped in rain and mist for a large portion of the year. It is here that the only village on the island is placed. We were induced to believe, by the glowing description of this isolated spot, its productions and inhabitants, as given by the English "Sailing Directions," that we were about to visit another Eden, where the vices of civilized communities were unknown, and where man enjoyed the choicest fruits of the earth, without expending the sweat of his brow. How these anticipations were realized will be seen in the sequel.

The inhabitants are all negroes, descendants of a cargo of shipwrecked slaves, and although the island belongs nominally to Portugal, that country exercises no sovereignty over it. Among the numbers who immediately boarded our ships from their canoes, on our dropping anchor, were some very remarkable from the peculiar disposition of their hair, or rather wool, which hung down from the head, in numerous small frizzled curls, resembling the bullion of an epaulette, and attaining a length of six or eight inches. There is a plate in Rayer's "*Atlas des Maladies de la Peau,*" which is a capital representation of this affection.

I was at first disposed to think this one of the fanciful arrangements of the hair, so frequently seen among uncivilized races; but a closer examination revealed it to be that form of plica called multiform. On landing, and entering the village, numerous examples of the same disease presented

themselves, on men, women, and children; besides which, numbers had their heads closely shaved, evidently, in order to free them from their disgusting appendage.

No pain appeared to be experienced in handling the affected hair, one woman, at my request, pulling off several long curls, which were extremely brittle, and composed of numerous malformed reddish hairs, closely agglutinated together. I could gain no information relative to the origin of the affection, nor its effects on the health of the individual; but the cases seen by me appeared to affect the feeble and the robust indiscriminately.

It is well known that this disease, under the name of Plica or Trichoma, first appeared in Poland, about the thirteenth century, and occurred only in those who were extremely filthy in their persons, and who lead a life of misery. Of late it has almost entirely disappeared. In this small island, we again find it in an endemic form, and evidently arising from causes nearly identical with those which produced the Polish affection, viz., dampness of climate, misery of life, and lack of cleanliness. These islanders, live in miserable huts which barely shelter them from rain, sleep at best on bare boards, and still more frequently on the damp earthen floors, and are so scantily clad as to be shivering from every passing blast. There being neither law nor government over them, they pay no regard to the rights of "meum and tuum," the stronger taking without scruple the pigs, poultry, and vegetables of the weaker, whenever the opportunity presents. In this way they have deprived themselves almost completely of the means of life, and the attenuated limbs and swollen abdomens of the great majority indicate sufficiently well, the bulky and innutritious nature of their diet. I should add that the soil is extremely fertile, yielding every tropical product in abundance. I saw no other indications of disease among this people, with the exception of vitiligo, which appeared to be quite common, and some traces of the ravages of syphilis, probably introduced by the crews of slavers and whalers. The healing art does not appear to have arrived at much perfection here, for in answer to some inquiries addressed to a rather intelligent native, who speaks tolerable English and acts as interpreter, I was informed that most diseases were treated by making punctures over the abdomen with a lancet, and then rubbing in lime-juice as a counter irritant. The abstraction of blood appears to be their principal remedial measure, judging from the traces of venesection which many bore on their arms. I offer the above as merely a slight contribution to our stock of information, gradually accumulating on the etiology and topography of disease, trusting at the same time, that it may not be entirely devoid of interest to those of the profession, whose vocation does not lead them so far from the abodes of civilization.

ART. XI.—*Gunshot Wound of Leg; Amputation and Recovery.* By W. S. KING, M. D., Surgeon U. S. A.

RICHARD THOMAS, in a drunken quarrel, received a gunshot wound in the leg from a Colt's pistol, navy size, while standing only a few feet distant therefrom. He immediately fell to the ground, and was carried to the hospital in my charge. The ball had produced a fracture of both bones of the leg, the tibia being almost completely comminuted for nearly its whole extent, with two external wounds, one produced by the ball, the other by the protrusion of pointed bone through the soft parts, probably at the time of falling. The displacement of the parts was so great that the toes of the injured limb looked to the rear. There was also considerable hemorrhage. The case called for immediate amputation, but this was postponed at the earnest pleading of the patient.

The leg was dressed lightly, placed in position, and supported by two splints loosely applied; lint steeped in solution of sulph. cupri, pressed to the wound to arrest hemorrhage, and water dressing medicated with acet. plumbi and opium over all. A dose of morphia was given to allay pain. The patient being accustomed to drink a good deal, wine was allowed at intervals, during the day. The operation was postponed for another day, on account of the unwillingness of the patient to submit to loss of the limb.

At the end of the second day, delirium tremens, or traumatic delirium supervened, the patient constantly whistling or talking, and fearful of persons near him, who he supposed would injure him; much excited at times, and pulse 120. On the fourth day after the injury, he had not slept for forty-eight hours; a watch had to be placed to keep him in bed; skin hot and dry; pulse 125; delirium the same, and the leg much swollen and discoloured. In this condition he was persuaded to blow into a sponge containing ether. After repeated attempts, he was at length completely etherized, lifted on the table and his leg taken off just below the knee. He slept half an hour after the operation; pulse fell to 90; skin became moist, and he awoke a little nervous, but rational.

This was the first time I ever amputated under similar circumstances, viz., during the excitement of delirium, and in my reading, I see no mention of operations of this kind performed in the same condition as my patient. In this case, there can be no doubt that it was the means of saving life, as I feel very confident, that after the stage of excitement had passed, he would have fatally sunk if the limb had not been removed.

He is now well and walking about with a crutch. On examining the removed limb, the tibia was found to be broken into more than twenty pieces, some four, three and two inches in length, others much smaller.

The above case illustrates well the soothing influence of the inhalation

of ether, together with the removal of the cause of irritation in calming down morbid excitement, both of body and mind.

ALBUQUERQUE, N. M., January 24th, 1860.

ART. XII.—*Case of Face Presentation; Mento-sacral Position; Delivery without change of Position.* By WM. KELLER, M. D., of Philadelphia.

MRS. H., a German lady of about 30 years of age, and healthy constitution, was delivered, without any difficulty, on the 25th of April, 1855, of a girl presenting with the vertex, and again on the 19th of February, 1857, the child presenting in the same position.

On the 10th of April, 1859, in the morning, at full term, she was taken in labour with her third child. I found, at 9 o'clock, the os tincæ opened and of the size of a silver dollar. Though the bag of waters was not ruptured, I could distinguish a face presentation.

The progress of the labour was very slow during the day. In the evening, about 8 o'clock, whilst the os tincæ was considerably distended, the membranes broke during a pain, and I found the chin of the child below the lumbar vertebræ turned directly towards the sacrum. I made some fruitless efforts to change the position to a head presentation.

As the pains continued to be feeble, and as this presentation was the first of the kind I had ever met with, I sent for a very experienced obstetrician, so as to have his assistance in case of unforeseen difficulties occurring. My friend believing, according to the doctrine of nearly all accoucheurs, the birth of the child in this presentation to be impracticable, proposed to wait for stronger pains, and then to turn the child and deliver by the feet.

The lady, to give more power to her bearing down, knelt on a foot-stool, resting with the upper part of the body on the bed. I was sitting behind her, so as to give her every possible assistance during the pains. They set in so severely that I observed a considerable advance of the child's face during each of them. Before half past ten, the child, a boy, was born, and, as far as I could judge during the hurry and excitement attending the birth, with the left os parietale first.

Notwithstanding the happy issue of this delivery, which required no artificial help whatsoever, I believe it my duty to report the case, as it is a very rare one, and one which would have necessitated, according to the rules of art, version by the feet. Yet it was left to itself, and an operation thus avoided, which I consider, whether in head or face presentations after the waters have been destroyed for some time, always serious, and sometimes highly dangerous to the mother.

ART. XIII.—*Of the Transverse or Occipito-Iliac Positions of the Vertex Presentation.* By JOSEPH K. T. VAN PELT, M. D., of Philadelphia.

IT is a remarkable circumstance that there are physicians, in extensive practice too, who but seldom meet with cases of preternatural parturition and unusual presentations, demanding a resort to version, forceps, and other expedients, while others, in more limited business, are fated to encounter them again and again. Strange as this may appear, it is nevertheless true. Facts within my own knowledge abundantly prove it.

Instances of transverse presentation having come under my own management, occurring, moreover, within a comparatively brief interval, I have thought that a communication respecting them might not be an inappropriate article for the pages of this journal. I have not the vanity to suppose that I can present anything new on this subject to the profession. My only object is to show that cases of the kind above mentioned do happen, and that perhaps more commonly than is generally imagined; and then, as a necessary consequence, the importance of a thorough preparation to treat them successfully. As to the method by which the delivery in the cases I am about to notice was conducted, I claim nothing that is either original or novel, having adopted merely those measures with which every well-instructed accoucheur is familiar.

In the classification of the vertex presentations, as given in some of our text-books, no place is assigned to those of the character now under consideration, although more justly entitled, in my judgment, to recognition than the occipito-pubal and occipito-sacral positions, which are invariably mentioned in obstetrical works, but which, nevertheless, are seldom, if ever, met with in practice. Different authors have acknowledged the transverse positions. Thus, Madame Lachapelle describes her fifth position as the occiput directly to the left, and her sixth as occiput directly to the right. Professor Moreau gives the following classification:—

First Genus: Vertex Presentation.	1*st Position:* Left Occipito-Ilium.	Anterior.
		Transverse.
		Posterior.
	2*d Position:* Right Occipito-Ilium.	Anterior.
		Transverse.
		Posterior.

Flamant designates his seventh as occipital fontanelle above the left iliac fossa; when above the right iliac fossa, as the eighth. Ramsbotham, in like manner, enumerates the seventh and eighth respectively as occipito-left and occipito-right iliac. Dr. Davis's third position is, "where the right ear lies immediately behind the symphysis pubis, and the occiput is directed to the left side of the pelvis." The division employed by Dr. Joseph Warrington, my respected preceptor, I here insert, as being the most perfect and

significant of all tabular denominations of the head, and on this account well worthy of recollection. It is to be understood that the patient is lying on the left side.

1. Occiput to left acetabulum.	Occiput downwards and forwards.
2. Occiput to right acetabulum.	Occiput upwards and forwards.
3. Occiput to pubis.	Occiput directly forwards.
4. Occiput to right sacro-iliac junction.	Occiput upwards and backwards.
5. Occiput to left sacro-iliac junction.	Occiput downwards and backwards.
6. Occiput to sacrum.	Occiput directly backwards.
7. Occiput to left ilium.	Occiput directly downwards.
8. Occiput to right ilium.	Occiput directly upwards.

Other writers, as Kilian, Smellie, Chevreul, Cazeau, Boivin, and Hamant, admit their occurrence, and assign them a place in their catalogue of vertex presentations. Smellie and Burns even contend that the head does not turn, or execute its pivot-like motion of rotation, until it has arrived at the inferior strait; and the latter remarks that when as low down as the floor of the excavation it is still found crosswise.

In diagnosing these transverse positions, I have argued that they truly deserved the appellation, by observing the vertex, long before it sank into the excavation, to be on the same line with the bi-ischiatic diameter of the inferior strait; no conversion into an anterior or posterior position, by rotation to either side of the tuberosity, ensuing after it engaged in the true pelvis. Indeed, the parallelism of the occipito-bregmatic or vertical diameter of the cranium with that of the bi-ischiatic was not changed by rotation until the perineal tumour had formed, as the following cases show:—

CASE 1. Sarah Ann F——, æt. 22; primipara; sent for me at 9 P. M., March 17, 1856. Membranes ruptured, and os uteri one-third dilated; vertex plainly felt jutting below the brim of the pelvis in the seventh position (occiput to left ilium). By exerting a little tension with the finger against the cervix, the pains became more violent, with large gushes of the waters at intervals. Dilatation of os uteri complete at 11 P. M. At midnight, head at inferior strait; pains very violent, and rapid in their return; perineal tumour formed; by pressing back the perineum, vertex felt close to the left tuberosity. Child born at $12\frac{1}{2}$ P. M.; male; occipito-mental diameter $5\frac{8}{16}$, occipito-frontal $4\frac{12}{16}$, bi-parietal $3\frac{5}{16}$. Duration of labour; six hours.

CASE 2. Anna R——, æt. 31; seventh pregnancy; sent for April 29, 1856, at 7 P. M. Os uteri dilated and contracted above the head; ruptured the membranes; eighth position; pain ceased for nearly an hour; attempts to favour rotation by pressing against the right parietal bone, but the head appeared too firmly placed to allow of success. At 9 the presentation completely filled up the excavation, the pains increasing in violence; head still in the same position. At $10\frac{1}{2}$ P. M. the delivery was accomplished, a few moments elapsing between the beginning of rotation and the exit of the head; male; cord around neck once; occipito-mental $5\frac{9}{16}$, occipito-frontal $4\frac{5}{16}$, bi-parietal $4\frac{2}{16}$. Duration of labour, eight hours.

CASE 3. Catharine Adelaide C——, æt. 23; fourth pregnancy; was delivered at 6 A. M., December 28, 1857, after eight hours of hard labour,

the head being in the seventh position till within fifteen minutes of delivery. All my efforts to force the rotation by the hand having proved ineffectual, this part of the mechanism of labour was accomplished under the intensity of the last pains. Female; occipito-mental $5\frac{1}{16}$, occipito-frontal $5\frac{1}{16}$, bi-parietal 4 inches.

CASE 4. Elizabeth K——, æt. 29; fourth pregnancy. I was summoned at 11 P. M., February 1, 1860, and found the waters drained off, the os uteri being two inches in diameter. I diagnosed the eighth position shortly after the dilatation was partially completed. The pains, which were at first irregular and feeble, became very strong at 4 A. M., the head remaining transverse until after 5, when, rotation having taken place, a single uterine contraction finished the delivery. Male; occipito-mental $5\frac{9}{16}$, occipito-frontal $4\frac{14}{16}$, bi-parietal $3\frac{14}{16}$. Duration of labour, six hours.

With many this disposition of the head is associated, in idea, with that condition known as locked or impacted, and requiring, necessarily, the use of forceps, if not the perforator and crotchet. This is a mistaken view, as will readily be seen by reference to the preceding cases. Labours which are of a tedious and painful character, in general, contrasted with those of the first and second positions of the vertex, may yet terminate naturally and safely, albeit demanding considerable manual effort to assist, and almost force, the rotation towards the pubal arch. My own experience has taught me that, under these circumstances, we must in some labours, however, anticipate a severe struggle on the part of the patient, and, for ourselves, a recourse, at a certain period of the accouchement, to forceps, though I have no doubt that adequate delay would of itself secure a natural termination of the delivery. But it seems to me a species of refined cruelty to witness with stoical indifference the most intense agony which the human frame can endure, while it is in our power, if not restrained by prejudice or timidity, to terminate it at once, by means always successful when used with skill and discretion.

An increased bulk of the lateral dimensions of the fœtal cranium has been regarded as inducing the transverse positions. The bi-parietal diameter, however, is not unfrequently found considerably over four inches, and the presentation, that of the first position of the vertex, attended by a natural and easy labour. Indeed, we often find this diameter measuring four inches in pelvic presentations, and the head disengaging itself without any opposition. A vitiated condition of the sacro-pubal or conjugate diameter of the superior strait has been also assigned as a cause of the iliac positions. I have never yet encountered this in any exaggerated form. When a great disproportion exists between the pelvic dimensions and the size of the head, whether dependent on excessive volume of the latter or a contraction of the former it is plain that an arrest of the lateral extremities of the cranium will occasion the impacted condition of the transverse position.

As the four inches, usually acknowledged the average measurement of

the conjugate diameter of the superior strait, is not a constant quantity, and the bi-parietal in like manner being subject to much variety, it is certain that the circumstances which occasion the occurrence of this position will not be invariably the same, since the cases about to follow prove that it may exist with a bi-parietal of small extent, even so low as $3\frac{9}{16}$, no matter what the size of the pelvic diameter, and thereby render instrumental interposition essential.

CASE 5. Bridget D——, æt. 35; ninth pregnancy. Labour began at 9 P. M., April 26, 1855; strong and frequent pains all night; at 3 A. M. the waters escaped; os uteri widely dilated, and the head plainly felt in the seventh position. The pains continued with great violence until 8 A. M., when they ceased entirely, the head remaining stationary at the brim. Symptoms of exhaustion being quite apparent at 12 M., I applied Davis's forceps, placing the left-hand blade obliquely over the posterior and left part of the head, and the right-hand blade over the anterior and right portion; rotation was effected within the forceps, their grasp being relaxed to permit that movement. Male; occipito-mental $5\frac{11}{16}$, occipito-frontal $4\frac{15}{16}$, bi-parietal $3\frac{2}{16}$. Duration of labour, fifteen hours. Treatment of mother and child successful.

CASE 6. Mary H——, æt. 35; second pregnancy. Labour began at 12 P. M., May 3, 1855; head presented in the seventh position; liquor amnii discharged before one-fourth of the dilatation of the os was complete; violent and excessive uterine action all night; dilatation of os uteri extremely tardy. During the day attempted to assist rotation, but failed. At $6\frac{1}{2}$ P. M., the pains having become quite feeble, I adjusted Davis's forceps to the head, now sunk in the excavation, obliquely, as described in the preceding case, after pushing the os uteri above and away from the presentation; rotation followed, as in that case. Female; occipito-mental $5\frac{10}{16}$, occipito-frontal $5\frac{2}{16}$, bi-parietal $3\frac{3}{16}$. Duration of labour, eighteen hours. Treatment of mother and child successful.

CASE 7. Bridget S——, æt. 26; fourth pregnancy. Labour commenced at $2\frac{1}{2}$ P. M., February 11, 1856; dilatation of os uteri completed in five hours, waters escaping spontaneously soon after; head gradually sunk into the excavation in the eighth position, the os passing above its occipito-frontal circumference. At 9 P. M. the head became immovably fixed; the pains then acquired great force, but proved inadequate to move the head forwards. At $3\frac{1}{2}$ A. M. I adjusted Davis's forceps obliquely over the occiput and sinciput, and delivered a male child; cord around neck once; occipito-mental $5\frac{4}{16}$, occipito-frontal $4\frac{8}{16}$, bi-parietal $3\frac{3}{16}$. Duration of labour, thirteen hours. Treatment of mother and child successful.

CASE 8. May 12, 1856, I was requested by Dr. T—— to deliver Mary J——, æt. 18, primipara, who had been in labour fourteen hours; waters discharged, and the head in the eighth position, encircled by the os uteri and engaged in the brim. As this condition had already lasted many hours without its making the least progress, I inserted the blades of Davis's forceps within the os uteri, placing them obliquely over the occipito-frontal diameter of the child; rotation followed within the blades, which were then removed, and applied as is customary for the first vertex position. Male; occipito-mental $5\frac{4}{16}$, occipito-frontal $4\frac{5}{16}$, bi-parietal $3\frac{0}{16}$. Treatment of mother and child successful.

CASE 9. Anna S——, æt. 25; primipara. Labour began 3 P. M., June 11, 1856, attended with frequent and energetic contractions; os uteri dilated at 12 P. M. Three hours after I ruptured the membranes, hoping that the head would soon descend into the inferior strait; discovered the eighth position. At 7½ A. M., finding that no advancement had been made, and that the pains were still very violent, the patient's countenance flushed, and her sufferings exceedingly great, I delivered the head by placing the Davis forceps transversely over the occipito-frontal diameter. Male; occipito-mental $5\frac{1}{16}^{3}$, occipito-frontal $5\frac{1}{16}$, bi-parietal $3\frac{1}{16}^{3}$; cord around neck once. Duration of labour, sixteen hours. Treatment of mother and child successful.

CASE 10. Anna C——, æt. 29; primipara. Labour began near 5 P. M., January 26, 1857; waters had ruptured early; eighth position; preternatural firmness and solidity of the cranial bones; os uteri rigid, vagina hot, and abdomen tender to the touch. Tartar emetic in divided doses and v. s. ℥xvj. Great intumescence of the scalp; pains very violent; os nearly dilated at 12 M. of the following day. At this period meconium was passed. When the head had sunk into the excavation, at 3 P. M., I locked the Davis forceps obliquely over it, delivering a still-born male child; occipito-mental $5\frac{1}{16}^{4}$, occipito-frontal $4\frac{1}{16}^{5}$, bi-parietal $3\frac{9}{16}$. Duration of labour, twenty-two hours. Patient's recovery was rapid.

CASE 11. Cecilia M——, æt. 18; primipara. Labour began 9 A. M., February 26, 1857, lasting twenty-nine hours, during six of which there was scarcely any pain; seventh position. The os being flaccid and yielding, but still embracing the head at the superior strait, I did not hesitate to lock the Davis forceps obliquely over the cranium, while within that organ. Male; occipito-mental $5\frac{7}{16}$, occipito-frontal $4\frac{1}{16}^{3}$, bi-parietal $3\frac{1}{16}^{2}$. Treatment of mother and child successful.

CASE 12. Mary T——, æt. 35; primipara. Pains began at 3 P. M., March 18, 1859; seventh position. After eighteen hours of severe suffering, I withdrew the head from the brim by the Davis forceps, locked obliquely, the patient being a delicate person, and completely exhausted from the length and character of the labour. Male; occipito-mental $5\frac{9}{16}$, occipito-frontal $4\frac{1}{16}^{2}$, bi-parietal $3\frac{1}{16}^{0}$. Treatment of mother and child successful.

M. de Leurie was the first to recommend the adaptation of the forceps after the manner shown in the preceding cases. As far as my experience extends, I have never witnessed any disfigurement or injury of the features of the infant by thus applying them, which was the ground of the objection urged by Baudelocque, who also denied the possibility of any diminution of the bi-parietal diameter by this means, asserting, on the contrary, that it must necessarily be increased. It is easy to refute his statement practically by placing the head of a still-born infant in the grasp of the instruments, as they have been adjusted in my own cases. Not only is the head then found to have its rotation, if I may use the expression, started, but an actual decrease of the bi-parietal ensues, the occipito-frontal being that diameter which becomes elongated. In fine, from the results so frequently witnessed in practice, I regard this presentation as affording as great a field for exhibition of the safety and usefulness of the obstetrical forceps as

can be had by any other disposition of the fœtal superficies. Smellie advises: "If the operator finds the upper parts of the sacrum jutting in so much that the point of the forceps cannot pass it, let him try with his hand to turn the forehead a little backwards, so that one ear will be towards the groin, and the other towards the side of that prominence, consequently there will be more room for the blades to pass along the ears; but if the forehead should remain immovable, or, though moved, return to its former place, let one blade be introduced behind one ear, and its fellow before the other."

In these cases I have had very little success from employing the vectis or lever to assist rotation. Velpeau asserts that, to use the vectis with most effect, the head should be in the excavation, and have executed its rotation. Most of my cases have required interference while the head was still in the brim. In a *natural* labour, spontaneous rotation is occasioned through the counter-resistance of the concavity of the pelvic floor against the occiput, when it has sunk so low down as to be beyond the influence of the bones and ligaments; it is, therefore, useless to attempt rotation in cases of *dystocia*, where the head is situated higher up than the soft tissues at the inferior strait.

Professor Simpson represents the vectis as an instrument for producing extraction, rotation, and restoring the flexion of the head; but recommends the *straight* forceps as far superior to it in securing rotation and extraction, while he regards the *curved* forceps as inferior in that respect to the vectis. Davis's forceps always furnish a safe and sufficient extractive power, if locked in the oblique or acetabulo-sacro-iliac diameter, over a transverse presentation of the head, the rotation effected within its blades being as complete and gradual as that occurring in a natural delivery. By thus adjusting the forceps, we avoid injuring the soft parts in front of the head, as the urethra, bladder, and anterior planes of the os and vagina; obviating, likewise, undue compression of the soft and delicate structures covering the promontory of the sacrum. Professor Simpson observes: "The blades of the long forceps should, I believe, be placed obliquely upon the child's head—one, the posterior, over the side of the occiput; and the other, or anterior, over the side of the brow or temple—and consequently they should be generally situated somewhat in the oblique diameter of the brim."

The difficulty encountered in applying the forceps to the *sides* of the head, in occipito-iliac positions, is owing to the sacro-vertebral angle, coccyx, and perineum offering such obstacles as will rarely permit of their being placed transversely, or allow extraction to be made in the direction of the axis of the superior strait, while in most cases there is not sufficient room for the blades to be inserted between the pelvic bones and those of the fœtal cranium.

I append the cases which have presented the largest bi-parietal diameters.

CASE 13. ——, æt. 20; primipara; seventh position. Applied, for Dr. S——, Davis's forceps, locking them obliquely, rotation being performed while within their hold; anterior fontanelle plainly felt high up in the right side of the pelvis. Delivery accomplished at 12 M., July, 1855; duration of labour, twenty-four hours. Bi-parietal, apparently, quite large; head not measured. Treatment of mother and child successful.

CASE 14. Matilda R——, æt. 30; fifth pregnancy; seventh position; delivered 10 P. M., February 19, 1856; unsuccessful in attempting rotation by the vectis; Davis's forceps locked obliquely over occiput and sinciput. Female; occipito-mental $5\frac{8}{16}$, occipito-frontal $4\frac{13}{16}$, bi-parietal $4\frac{2}{16}$. Duration of labour, sixteen hours. Treatment of mother and child successful.

CASE 15. Sarah C——, æt. 38; primipara; eighth position; delivered 2 P. M., March 12, 1856; Davis's forceps locked obliquely within os uteri. Female; occipito-mental $5\frac{8}{16}$, occipito-frontal $4\frac{15}{16}$, bi-parietal $4\frac{4}{16}$. Duration of labour, nineteen hours. Treatment of mother and child successful.

CASE 16. Anna H——, æt. 42; eighth pregnancy; eighth position, complicated with a slight departure of chin from the breast; efforts made with vectis to restore the proper flexion. Davis's forceps applied obliquely in excavation; catheterism resorted to previously. Delivery 6 P. M., March 24, 1856. Female. This labour was so severe, that I recommended at an early period a resort to forceps, which she obstinately opposed, until complete exhaustion and fatigue compelled a compliance with my advice. A large slough separated in a few days from each parietal boss, completely exposing the bone, and remaining unhealed many weeks, a manifest result of the great pressure sustained by those surfaces, which might have been prevented by earlier resort to instrumental aid. Duration of labour, twenty hours. Occipito-mental $5\frac{8}{16}$, occipito-frontal $4\frac{14}{16}$, bi-parietal $3\frac{15}{16}$. Patient's recovery was rapid.

CASE 17. Rebecca J——, æt. 23; primipara; eighth position. Succeeded in adjusting the Davis forceps to the *sides* of the head. Delivered at $2\frac{1}{2}$ P. M., March 27, 1856. Male; occipito-mental $5\frac{8}{16}$, occipito-frontal $4\frac{15}{16}$, bi-parietal 4 inches. Duration of labour, twelve hours. Treatment of mother and child successful.

CASE 18. Rosaline G——, æt. 31; eighth pregnancy; eighth position. Delivered $10\frac{3}{4}$ A. M., April 21, 1857. Davis's forceps applied obliquely. Male. Duration of labour, fourteen hours. Occipito-mental $5\frac{2}{16}$, occipito-frontal $5\frac{1}{16}$, bi-parietal $4\frac{2}{16}$. Treatment of mother and child successful.

CASE 19. Sarah M——, æt. 26; third pregnancy; seventh position. Davis's forceps adapted obliquely to the head. Delivered of an uninjured live male child at 3 P. M., December 6, 1857. Duration of labour, fourteen hours. Occipito-mental $5\frac{13}{16}$, occipito-frontal $5\frac{1}{16}$, bi-parietal $3\frac{14}{16}$. In her previous labours, which were also instrumental, under other physicians, the children were still-born. Speedy recovery of mother.

CASE 20. Ellen M——, æt. 39; primipara; attended January 8, 1858; seventh position. After she had been twenty-two hours in labour, I auscultated the abdomen; fœtal heart not heard; child evidently dead; os uteri rigid and unyielding; its circumference felt a few lines beneath the head. As the head did not advance, and seemed perfectly immovable, the patient's sufferings being great, and constitutional disturbance evident, I urged cra-

niotomy, which was rejected. Eight hours after, I received permission to deliver with the forceps, locking the blades obliquely, but was compelled to pass them within the uterus for that purpose; the compression made by the presentation, as I drew it down from the brim, completed the dilatation of the os uteri. I had never before, nor have since, been compelled to employ so great force in extracting the head. Male; stillborn; occipito-mental $5\frac{10}{16}$, occipito frontal $5\frac{1}{16}$, bi-parietal $3\frac{15}{16}$. The mother was sufficiently recovered to leave her room on the seventh day. I have been informed that this patient died recently, in a subsequent labour, undelivered, at a neighbouring city.

CASE 21. Jane F——, æt. 28; primipara; delivered 11 A. M., February 3, 1858; seventh position. Davis's forceps applied obliquely. Male; occipito-mental $5\frac{9}{16}$, occipito-frontal $5\frac{2}{16}$, bi-parietal 4 inches. Duration of labour, twenty-three hours. Treatment of mother and child successful. I am daily expecting the second accouchement of this patient.

CASE 22. Bridget P——, æt. 30; fourth pregnancy; delivered $3\frac{1}{2}$ P M., February 25, 1859; seventh position. Davis's forceps applied obliquely within the os, head at brim. Female; occipito-mental $5\frac{6}{16}$, occipito-frontal $4\frac{11}{16}$, bi-parietal $3\frac{15}{16}$. Duration of labour, eighteen hours. Treatment of mother and child successful.

CASE 23. Margaret G——, æt. 31; fifth pregnancy; seventh position; delivered $12\frac{1}{2}$ A. M., November 18, 1859. Davis's forceps applied obliquely to the head at the brim. I was compelled in this case to pass the lock or junction of the blades a short distance within the vagina to reach the head. Female; occipito-mental $5\frac{2}{16}$, occipito-frontal $4\frac{14}{16}$, bi-parietal $4\frac{1}{16}$. Duration of labour, eighteen hours. Treatment of the mother and child, successful.

In concluding this article, it may be proper to state, that in the collection of my obstetrical cases—now seven hundred and forty-two in number—I have recorded seven hundred and eighteen cephalic presentations, including those of eight twin labours. Of these, eight were of the face, six hundred and seventy-eight of the first position of the vertex, twelve of the second position, five of the fifth position; of the occipito-iliac positions I have had twenty-three, thirteen of the seventh, and ten of the eighth position. Ramsbotham says the seventh is the most frequent.

Of the pelvic presentations I have had twenty-five in the seven hundred and forty-two cases of labour. In one individual the presentation occurred three times under my supervision; in another, twice.

The shoulder presentation, usually considered as a deviation from the original head presentation, was found in seven cases.

A sacrum too straight, of an insufficient curvature, may give rise to a transverse condition of the head. I have never yet met with such a case; nor observed that species of delivery, described in the three cases reported by Madame Lachapelle, where the vertex makes its exit at the tuberosity of one ischium, the forehead afterwards emerging by extension aside of the internal surface of the opposite one.

TRANSACTIONS OF SOCIETIES.

Art. XIV.—*Summary of the Transactions of the College of Physicians of Philadelphia.*

1859. *Nov.* 2. *Imperforate Rectum.*—Dr. Ellerslie Wallace narrated the following case, in which a child with imperforate rectum was permanently relieved by operation on the closed end of the rectal pouch:—

Twelve weeks ago, I attended a lady in her first confinement; her child was of average size, and appeared to be properly formed in all respects. The infant nursed at the breast for some thirty-six hours, but then refused to take its natural nutriment, and was restless, and evidently in pain. The urine had passed occasionally, and in fair quantity, but there had been no alvine evacuation. I ordered an enema, which returned as soon as given, and produced no movement of the bowels. A cathartic, administered some hours after, was instantly rejected by vomiting. Sixty-four hours after the child's birth, I was notified that the bowels had not yet been opened, and that it seemed to suffer great pain. I saw it without loss of time, and found the child fretting constantly, and making repeated tenesmic efforts; the abdomen was largely distended, the breathing was short, and the expansion of the lung incomplete, from the great amount of flatus in the hollow viscera, below the diaphragm. The vomiting was frequent, with ejection of meconium. The hands and feet were cold, the face pinched and collapsed, and the pulse was a mere thread.

I explored the rectum with the finger, and found a cul-de-sac, of an inch in depth, passing upward from a perfectly well-formed anus; above the terminus of the pouch, I could feel only an elastic mass, of which the character was uncertain, as I was, of necessity, in doubt as to whether the mass was a distended rectum only, or the general bulk of the intestines compressed into the pelvis.

I explained the condition of the child to the family, and requested a consultation with Dr. Keating, who met me soon, and we advised the immediate performance of an operation for the infant's relief.

We mentioned, also, the possibility of the non-development of the rectum

above the cul-de-sac, and the certainty of the operation proving unsuccessful if the gut had not been formed, and likewise the possibility of the operation yielding but temporary relief, even if the intestine should be reached by a cutting process.

Dr. Keating held the child for me: I then passed a delicate sharp-pointed bistoury into the anal aperture, and using the little finger of my left hand as a guide, I plunged the bistoury through the terminal wall of the cul-de-sac, making a puncture towards where the rectum should be. Upon withdrawing both finger and knife, a drop of meconium appeared. Being thus encouraged, I repeated the puncture, enlarging the aperture backward, toward the sacrum. I then removed the knife a second time, and had abundant evidence of having divided the intestine more perfectly than before. Again I passed the finger into the pouch, and guiding my bistoury upon it, made an incision of semicircular form, endeavouring to follow the posterior half-round of the intestine, so as to avoid the possibility of wounding the peritoneum. The withdrawal of the finger and bistoury was now followed by a free discharge of meconium, of well formed feces, and of flatus. There was no bleeding worthy of notice. The distension of the abdomen was at once diminished, the child ceased to cry and whine, the extremities soon became warm again, and the pulse increased in force. Twelve hours after the operation, I again saw the patient; there had been no additional dejection; the abdomen was again much swollen, and the child was now refusing its nourishment, though it had nursed frequently and freely since I saw it last. I passed my finger into the bowel, and found the opening obstructed by what proved to be a dense blood clot; upon breaking it away with the finger another free discharge took place, and the infant experienced immediate relief.

During the week succeeding, I once advised an enema of warm water, and administered a single dose of oil, being unwilling to allow more than twelve hours to elapse without an alvine evacuation. This has constituted the entire treatment.

The child has never had colic, and has had no difficulty whatever with the opening of the bowels, which has taken place from two to four or five times per day, the matters passed being generally semi-fluid, but occasionally of ordinary solid consistence. It has always nursed well, and thrived well to the present time.

I have informed the parents, that when the feces shall permanently assume the solid character, I may deem it prudent to enlarge the communication between the proper rectum above, and the terminal pouch, which opens at the anus.

Should anything further present itself, in the above case, I shall report it to the college.

1860, *Feb.* 1. *Report on Meteorology and Epidemics.*—Dr. WILSON JEWELL read the following report on meteorology and epidemics for the year 1859:—

The accompanying meteorological observations are entirely reliable, and are from the record as taken by Prof. James A. Kirkpatrick, of the Philadelphia High School, for the Smithsonian Institution. I am indebted to his uniform politeness for this abstract.

The mean temperature of the year (1859) was three-quarters of a degree below that of 1858, and almost two-tenths of a degree above the average for the last eight years.

The maximum temperature for the year, 97°, was attained on the 13th of July, and the 4th of August. The minimum temperature was two degrees below zero, on the 10th of January.

The warmest day of the year was the 13th of July, when the mean temperature was 86½ degrees.

The coldest day was the 10th of January, the mean for that day being but two degrees.

The winter and spring were nearly 3° above the average temperature for the last eight years, while the summer and autumn were nearly 2° below the average.

Of the months, the greatest variation from the average was experienced in March, which was more than 7° warmer than usual; indeed, the mean temperature of that month was 5° higher than any March in the last eight years. This change in the temperature of March may have been occasioned in part by the more southerly direction of the wind, the prevailing direction being 9° further south of west than it usually is, north of that point.

The large amount of rain—4 inches more than the average—may also have had a modifying effect upon the temperature.

The highest point of pressure shown by the barometer, was 30.478 inches, on the 24th of January; and the lowest was 28.890, on the 23d of April.

The amount of rain that fell during the year was 54¾ inches, which is ten inches more than the average for the last eight years. It was more than 13 inches greater than the quantity which fell in 1858. The greatest difference was in the winter and autumn, each of which shows 5 inches of rain more than the average, while the spring and summer show an increase of but little over one inch.

General Abstract of Meteorological Observations, made at Philadelphia, Pa., during the year 1859.

By JAMES A. KIRKPATRICK, A. M., Prof. of Civil Engineering in the Philadelphia High School.

(Barometer fifty feet above high water.)

1859.	THERMOMETER.									BAROMETER REDUCED TO 32° F.							
							RANGE.									RANGE.	
MONTHS.	7 A. M.	2 P. M.	9 P. M.	Mean.	Max.	Min.	Monthly.	Mean daily.	Mean of daily oscillations.	7 A. M.	2 P. M.	9 P. M.	Mean.	Max.	Min.	Monthly.	Mean daily.
	°	°	°	°	°	°	°	°	°	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.
January . . .	30.02	38.63	33.35	34.00	55	—2	57	8.0	13.0	30.016	29.975	30.017	30.003	30.475	29.387	1.088	.206
February . . .	32.70	40.64	35.99	36.43	63	18	45	6.3	13.2	29.900	29.864	29.891	29.885	30.229	29.316	0.913	.230
March	41.77	55.31	47.27	48.12	70	20	50	6.0	16.9	29.777	29.735	29.762	29.758	30.360	29.215	1.145	.250
April	45.70	56.13	49.01	50.28	78	31	47	6.3	15.5	29.723	29.678	29.703	29.701	30.083	28.890	1.193	.160
May	59.66	72.24	62.06	64.65	87	44	43	5.7	19.7	29.894	29.853	29.876	29.874	30.176	29.512	.664	.111
June	67.05	76.76	68.74	70.85	96	42	54	6.1	18.9	29.881	29.842	29.859	29.861	30.152	29.520	.632	.116
July	72.00	82.68	73.31	76.00	97	54	43	4.6	20.2	29.870	29.833	29.853	29.852	30.202	29.554	.948	.099
August	69.03	82.16	72.39	74.53	97	51½	45½	3.1	20.5	29.847	29.801	29.832	29.827	29.998	29.671	.327	.070
September . . .	61.02	72.88	64.65	66.18	82	45½	36½	4.1	18.1	29.875	29.835	29.863	29.858	30.179	29.338	.841	.119
October	46.98	59.11	50.87	52.32	81½	30	51½	5.9	18.1	29.864	29.823	29.850	29.845	30.193	29.470	.723	.140
November . . .	42.63	53.35	46.48	47.49	67	27	40	7.3	18.6	29.990	29.940	29.965	29.965	30.338	29.436	.902	.193
December . . .	30.66	36.48	31.87	33.00	71	9	62	8.4	14.2	29.941	29.906	29.930	29.926	30.293	29.393	.900	.199
Annual means .	49.93	60.53	53.00	54.49	97	—2	99	6.0	17.2	29.881	29.840	29.867	29.863	30.475	28.890	1.585	.158
Winter	34.50	40.08	35.60	36.03	63	—2	65	6.9	12.7	29.973	29.931	29.958	29.954	30.475	29.206	1.269	.214
Spring	49.04	61.23	52.78	54 35	87	20	67	6.0	17.4	29.798	29.755	29.780	29.778	30.360	28.890	1.470	.174
Summer	69.36	80.53	71.48	73.79	97	42	55	4.6	19.9	29.866	29.825	29.848	29.847	30.202	29.520	.682	.095
Autumn	50.21	61.78	54.00	55.33	82	27	55	5.8	18.3	29.910	29.866	29.893	29.889	30.338	29.338	1.000	.151
For eight years .	49.73	59.93	53.27	54.31	100½	—5½	106	5.6	14.7	29.894	29.857	29.879	29.877	30.704	28.884	1.820	.156

Meteorological Observations—Continued.

1859.	Relative Humidity.					Force of Vapour.						Winds.	Clouds. Tenths of sky covered.				Dew-point.					
Months.	7 A.M.	2 P.M.	9 P.M.	Max.	Min.	7 A.M.	2 P.M.	9 P.M.	Max.	Min.	Rain and melted snow.	Monthly resultant; No. of times in 1000.	7 A. M.	2 P. M	9 P. M.	Mean.	7 A.M.	2 P.M.	9 P.M.	Mean.	Max.	Min.
	Per ct.	Per ct.	Per ct.	Per ct.	Per ct.	Inch.	Inch.	Inch.	Inch.	Inch.	Inches.						°	°	°	°	°	°
January . . .	82	64	77	96	35	.153	.165	.158	.390	.028	5.230	N. 80° 41′ W., 375	6.4	6.2	4.4	5.7	25.06	27.05	27.02	26.38	52.1	—0.4
February . . .	79	65	74	95	31	.152	.166	.158	.404	.070	3.569	N. 42° 53′ W., 241	6.4	6.6	5.3	6.1	26.87	28.52	28.02	27.80	53.1	10.6
March	74	50	66	95	23	.207	.227	.222	.549	.085	6.503	S. 67° 23′ W., 234	5.9	5.6	4.9	5.5	33.71	35.36	35.96	35.01	61.7	14.8
April	65	47	63	95	22	.207	.212	.226	.478	.096	5.668	N. 68° 30′ W., 224	5.5	7.0	5.6	6 0	33.76	33.74	36.01	34.50	57.8	14.8
May	69	50	69	97	18	.361	.383	.393	.691	.121	1.946	S. 7° 36′ W., 90	5.0	5.6	4.1	4.9	49.12	50.26	51.13	50.17	68.3	22 6
June	72	57	72	95	29	.501	.541	.512	.964	.162	5.229	S. 71° 2′ W., 393	5.5	5.8	5.5	5.6	57.31	59.07	58.15	58.17	78.2	29.3
July	69	51	69	90	32	.551	.574	.579	.890	.268	3.915	N. 84° 6′ W., 166	5.8	5.2	3.5	4.8	60.88	61.78	62.42	61.69	75.8	42.1
August	75	50	72	92	31	.551	.551	.581	1.014	.268	4.447	S. 26° 34′ E., 55	4.5	5.8	4.3	4.9	60.86	60.63	62.60	61.36	79.7	42.1
September . .	79	59	76	97	29	.438	462	.472	.658	.181	7.779	N. 70° 38′ W., 236	6.2	6.6	5.6	6.1	54.37	55.90	56.72	55.66	66.8	32.0
October . . .	75	50	69	97	23	.259	.274	.280	.569	.065	3.210	N. 75° 21′ W., 405	5.8	5.5	4.8	5.4	39.26	39.75	40.85	39.95	62.7	8.9
November . . .	77	56	71	97	32	.227	.241	.241	.559	.112	3.796	N. 54° 52′ W., 206	5.6	5.7	4.1	5.1	35.82	37.36	37.51	36.89	62.2	20.8
December . . .	76	69	77	96	46	.148	.171	.158	.551	.043	3.460	N. 37° 45′ W., 229	7.0	7.5	4.8	6.5	24.09	27.25	25.57	25.64	61.7	—0.1
Annual means .	74	56	71	97	18	.313	.331	.332	1.014	.028	54.752	N. 79° 31′ W., 255	5.8	6.1	4.7	5.5	41.76	43.06	43.50	42.77	79.7	—0.4
Winter	80	66	76	100	31	.158	.171	.168	.524	.028	14.258	N. 56° 40′ W., 268	6.8	6.7	5.3	6.3	26.92	28.79	28.72	28.14	60 3	—0.4
Spring	69	49	66	97	18	.258	.274	.280	.691	.085	14.117	S. 76° 32′ W., 148	5.5	6.1	4.9	5.5	38.86	39.79	41.03	39.89	68.3	14.8
Summer . . .	72	53	71	95	29	.534	.555	.557	1.014	.162	13.591	S. 73° 8′ W., 182	5.3	5.6	4.4	5.1	59.68	60.49	61.06	60.41	79.7	29.3
Autumn . . .	77	55	72	97	23	.308	.326	.331	.658	.065	14.785	N. 69° 12′ W., 281	5.9	5.9	4.8	5.5	43.15	44.34	45.03	44.17	66.8	8.9
For eight years.	77	58	73	100	13	.328	.348	.350	1.059	.013	44.603	N. 74° 13′ W., 214	5.9	6.0	4.4	5.4		43.94			79.7	—16.5

TABLE I.—*Mortality for the year* 1859, *Collated from*

DISEASES.	FIRST QUARTER, Commencing January 1, 1859.									SECOND Commencing					
	Jan.		Feb.		March.		Adults.	Minors.	Total.	April.		May.		June.	
	M.	F.	M.	F.	M.	F.				M.	F.	M	F.	M.	F.
Abscess	3	1	2	..	4	3	8	5	13	3	4	2	..	..	..
" of liver	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
Amenorrhœa	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..
Anæmia	..	..	..	..	..	2	2	..	2	..	1	..	..	1	1
Aneurism	1	..	1	..	2	..	4	..	4	1	..	..	..	..	..
Apoplexy	8	3	3	2	5	3	24	..	24	2	4	4	4	5	2
Asphyxia	2	..	1	3	1	1	1	7	8	2	1	2	..	..	3
Asthma	1	2	3	..	1	..	5	2	7	1	..	1	2	1	..
Cancer and scirrhus	..	2	..	..	1	..	2	1	3	1	3	..	..	2	4
" of the stomach	..	3	1	4	3	..	11	..	11	2	2	2	3	..	3
" " rectum	..	..	..	..	..	..	..	..	..	..	2	..	..	..	..
" " uterus	..	..	..	4	..	8	12	..	12	..	..	..	..	..	5
Casualties	11	1	10	1	3	3	19	10	29	11	5	6	1	17	4
Burns and scalds	5	3	..	2	..	2	3	9	12	1	2	2	1	2	4
Drowned	..	1	1	..	5	..	6	1	7	3	..	10	2	15	1
Exposure	..	..	..	..	..	..	..	..	..	3	..	..	..	..	..
Fracture	1	..	..	..	..	1	2	..	2	1	..	..	1	1	1
" of pelvis	..	..	..	..	..	..	..	..	..	..	..	..	2	1	4	2
Neglect and want	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Poisoning	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Suicide	..	1	..	..	..	1	2	..	2	1	..	1	..	1	1
Violence	..	..	..	..	..	..	..	..	..	2	..	..	..	..	..
Cholera infantum	..	..	..	..	..	..	..	..	..	4	2	5	5	31	32
" morbus	..	..	..	..	..	..	..	..	..	..	..	..	..	2	4
Chlorosis	..	..	..	..	..	1	..	1	1	..	..	..	..	..	..
Congestion of the brain	13	4	14	4	8	11	26	28	54	6	5	12	4	12	8
" " lungs	3	3	3	8	10	11	19	19	38	4	5	4	4	4	1
Consumption of the lungs	65	56	68	57	78	75	377	22	399	72	70	66	47	68	56
Convulsions	19	19	29	31	37	21	11	145	156	18	9	22	22	26	28
Cronp	17	17	11	17	16	14	..	92	92	12	16	10	11	4	6
Cyanosis	1	..	5	2	..	2	..	10	10	..	2	1	2	2	1
Coup de soleil	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..
Debility	20	22	13	24	27	22	58	70	128	17	14	21	23	23	25
Diabetes	1	..	..	..	..	..	1	..	1	..	..	..	..	..	..
Diarrhœa	1	1	3	2	6	6	13	6	19	4	2	2	3	5	5
Disease of the brain	10	3	9	..	9	2	20	13	33	7	5	5	1	16	9
" " heart	13	11	12	17	16	10	68	11	79	12	4	4	7	7	13
" " kidneys	1	2	2	..	..	..	3	2	5	..	..	..	..	..	..
" " liver	1	..	..	1	..	..	2	..	2	1	2	3	..	3	1
" " spine	..	3	..	1	..	..	1	3	4	2	1	..	1	1	2
Dropsy of the brain	8	9	10	10	10	10	2	55	57	16	4	11	10	18	11
" " chest	6	6	4	4	6	6	31	1	32	2	8	3	10	8	15
" " heart	..	1	1	..	..	..	1	1	2	..	2	1	..	1	..
Dysentery	..	3	4	1	3	1	7	5	12	4	..	5	2	15	16
Dyspepsia	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Effusion on the brain	3	3	5	1	5	5	2	20	22	3	2	1	5	2	2
Epilepsy	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Erysipelas	2	4	4	6	4	..	7	13	20	4	3	2	4	6	6
Exhaustion	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..
Fever, bilious	1	..	2	1	2	..	6	..	6	2	..	..	3	4	3
" enteric	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
" intermittent	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
" puerperal	..	5	..	8	..	3	15	1	16	..	6	..	5	..	1
" remittent	2	..	..	..	..	..	1	1	2	..	..	..	1	..	..
" scarlet	4	7	13	15	13	15	..	67	67	6	9	5	8	13	12
" typhoid	12	10	13	10	17	12	45	29	74	13	8	15	16	10	6
" typhus	3	3	3	1	2	2	9	5	14	1	1	5	..	3	4
Gangrene	1	1	2	..	3	2	6	3	9	..	..	1	1	..	..
Gout	1	..	..	..	1	..	2	..	2	..	..	..	..	..	..
" of the heart	1	..	..	..	..	..	1	..	1	..	..	..	..	..	..
Hemorrhage	2	3	1	1	..	..	4	3	7	1	3	1	..	..	1
" of the bowels	..	..	1	..	..	..	1	..	1	..	..	..	..	..	..
" " lungs	..	..	1	1	3	4	7	2	9	..	1	4	2	1	1
" " uterus	..	..	..	2	..	1	3	..	3	..	1	..	1	..	..
Hernia	..	..	1	1	1	..	3	..	3	..	..	..	..	..	..
Hooping-cough	..	2	1	3	2	1	..	9	9	4	..	1	4	..	2
Hysteria	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Inanition	2	4	2	3	9	1	3	18	21	3	3	3	6	4	2
Inflammation of the brain	19	14	14	11	19	21	16	82	98	24	9	11	9	17	18

Returns made to the Health Office. By WILSON JEWELL, M. D.

QUARTER, April 2, 1859.			THIRD QUARTER, Commencing July 2, 1859.									FOURTH QUARTER, Commencing October 1, 1859.									Total for the year.
			July.		Aug.		Sept.					Oct.		Nov.		Dec.					
Adults.	Minors.	Total.	M.	F.	M.	F.	M.	F.	Adults.	Minors.	Total.	M.	F.	M.	F.	M.	F.	Adults.	Minors.	Total.	
4	5	9	1	..	2	..	..	..	1	2	3	2	..	2	1	2	2	5	4	9	34
1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
2	1	3	1	1	2	2	2	..	3	5	8	1	..	..	1	1	..	2	1	3	16
1	..	1	..	1	..	..	..	..	1	..	1	..	..	..	..	..	..	..	..	..	6
19	2	21	1	..	5	3	3	4	16	..	16	3	5	5	6	7	5	26	5	31	92
2	6	8	..	..	1	1	1	..	..	3	3	..	2	3	1	1	1	..	8	8	27
4	1	5	..	..	1	2	..	..	2	1	3	1	..	..	1	1	4	6	1	7	22
9	1	10	..	..	3	2	3	3	10	1	11	..	1	5	7	2	2	15	2	17	41
10	2	12	4	..	2	1	..	..	7	..	7	1	1	2	3	..	..	6	1	7	37
..	..	..	1	..	1	..	..	..	2	..	2	..	..	..	..	..	..	..	..	..	2
7	..	7	..	5	..	9	..	7	21	..	21	..	4	..	3	..	5	12	..	12	52
28	16	44	6	2	8	2	7	1	13	13	26	6	4	14	1	12	5	28	14	42	141
5	7	12	5	6	1	2	2	..	6	10	16	5	1	1	4	2	3	3	13	16	56
20	11	31	11	2	20	..	13	..	25	21	46	3	..	6	..	2	..	9	2	11	95
3	..	3	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3
2	2	4	1	..	1	1	1	1	5	..	5	1	..	1	..	..	..	2	..	2	13
..	..	..	..	..	..	..	1	..	..	1	1	..	..	..	..	..	..	..	..	..	1
7	2	9	1	1	..	..	3	1	1	5	6	1	..	2	3	1	1	4	4	8	23
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	1	..	1	1
4	..	4	1	..	3	1	3	2	8	2	10	..	..	1	2	2	..	5	..	5	21
2	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2
..	79	79	102	92	47	57	14	9	..	321	321	3	4	1	..	..	..	..	8	8	408
1	5	6	5	8	5	..	..	..	13	5	18	..	..	..	..	..	..	..	..	..	24
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
23	24	47	13	15	12	12	7	6	20	45	65	7	8	12	4	9	8	17	31	48	214
10	12	22	2	4	4	1	1	6	9	9	18	4	3	2	2	7	12	12	18	30	108
351	28	379	54	57	70	67	49	46	291	52	343	51	61	74	82	65	51	335	49	384	1505
4	121	125	23	24	30	25	17	11	9	121	139	21	8	24	25	18	13	8	101	109	520
1	58	59	7	9	5	11	7	5	..	44	44	15	13	23	30	22	14	..	117	117	312
..	8	8	3	2	5	3	1	1	..	15	15	2	1	3	2	3	..	..	11	11	44
1	..	1	3	..	1	..	..	..	4	..	4	..	..	..	..	..	..	..	..	..	5
55	60	115	32	21	29	25	16	13	58	78	136	18	24	14	13	14	20	58	45	103	482
..	..	..	..	1	..	..	..	..	1	..	1	..	..	1	..	..	..	1	..	1	3
7	14	21	18	28	11	8	5	5	64	11	75	2	1	1	3	1	3	9	2	11	126
14	29	43	9	6	7	4	8	3	25	12	37	8	2	10	5	3	..	21	7	28	141
29	18	47	6	7	9	6	5	5	26	12	38	8	8	11	5	8	8	34	14	48	212
..	..	..	..	..	2	1	1	1	4	1	5	2	1	2	2	3	1	9	2	11	21
6	4	10	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	12
3	4	7	..	..	..	1	..	..	1	1	1	1	1	2	1	1	..	1	5	6	18
..	70	70	17	18	17	8	6	..	72	72	5	5	5	7	8	5	2	33	35	234
43	3	46	5	6	10	10	5	6	39	3	42	4	8	8	8	7	4	35	4	39	159
2	2	4	..	..	2	1	1	..	2	2	4	1	1	1	1	1	3	7	1	8	18
18	24	42	11	13	20	12	5	2	18	45	63	4	1	2	3	1	1	10	2	12	129
..	..	..	..	..	..	..	..	1	1	..	1	..	..	..	..	..	..	..	..	..	1
4	11	15	5	7	8	6	1	1	3	25	28	1	2	..	2	3	3	3	8	11	76
..	..	..	..	1	..	..	..	..	..	1	1	..	1	..	1	3	1	5	1	6	7
6	19	25	2	..	1	1	2	..	4	2	6	2	2	7	1	3	4	8	11	19	70
1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
3	9	12	2	2	..	1	..	..	4	1	5	..	1	..	..	..	..	..	1	1	24
..	..	..	..	..	1	..	..	..	1	..	1	1	..	..	3	..	..	2	2	4	5
..	..	..	..	..	..	..	..	1	..	1	1	3	1	..	..	..	..	2	2	4	5
12	..	12	..	5	..	5	..	3	13	..	13	..	3	..	4	..	3	10	..	10	51
..	1	1	1	2	6	..	3	1	9	4	13	..	..	3	2	1	1	3	4	7	23
..	53	53	3	5	7	8	2	3	..	28	28	5	11	12	17	17	22	..	84	84	232
52	16	68	7	12	14	12	7	15	48	19	67	16	7	10	12	5	5	35	20	55	264
10	4	14	..	3	2	4	2	1	9	3	12	1	2	1	1	1	4	3	7	47
1	1	2	1	1	2	..	1	..	3	2	5	1	..	1	2	1	..	3	2	5	21
..	..	..	..	..	..	1	..	..	1	..	1	..	..	..	..	..	..	..	..	..	3
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
4	2	6	5	3	2	2	2	5	13	6	19	..	..	2	6	..	1	7	2	9	41
..	..	..	2	..	..	..	..	..	2	..	2	..	4	..	..	..	..	1	..	1	3
7	2	9	..	..	..	..	..	..	..	..	..	4	4	..	..	1	1	9	1	10	28
2	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	2	..	2	7
..	..	..	..	1	1	1	..	..	3	..	3	1	2	2	1	1	1	8	..	8	14
..	11	11	1	3	2	2	3	3	..	14	14	3	3	3	4	3	2	..	18	18	52
..	..	..	..	..	..	1	..	..	1	..	1	..	..	..	..	..	..	..	..	..	1
2	19	21	6	8	16	10	5	5	6	44	50	7	4	4	6	5	5	3	28	31	123
74	14	88	18	13	16	18	18	8	11	80	91	12	6	10	11	7	7	14	39	53	330

TABLE I.—*Mortality*

DISEASES.	FIRST QUARTER, Commencing January 1, 1859.									SECOND Commencing					
	Jan.		Feb.		March.		Adults.	Minors.	Total.	April.		May.		June.	
	M.	F.	M.	F.	M.	F.				M.	F.	M.	F.	M.	F.
Inflammation of the bronchi	4	9	7	6	10	6	20	22	42	7	5	6	4	3	1
" " kidneys	1	1	..	..	..	..	2	..	2	..	..	..	..	..	..
" " larynx	..	1	1	2	4	1	3	6	9	..	2	1	4	1	2
" " liver	8	2	1	..	4	7	17	5	22	2	4	2	5	3	3
" " lungs	31	36	32	28	49	35	154	57	211	41	25	21	17	17	17
" " peritoneum	2	1	..	5	6	5	13	6	19	2	2	3	1	4	3
" " pleura	2	..	1	2	2	2	2	7	9	1	1	..	1	2	1
" " stomach & bowels	12	10	10	6	12	10	34	26	60	10	9	18	9	8	14
" " uterus	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Intussusception	..	..	..	..	2	..	1	1	2	..	..	..	1	..	1
Jaundice	1	2	..	..	2	3	3	5	8	2	1	1	..	1	..
Mania	..	..	1	..	..	..	1	..	1	..	..	..	1	..	..
Mania à potu	7	1	4	2	8	1	23	..	23	4	1	9	4	5	1
Marasmus	8	9	8	11	25	11	11	61	72	12	7	17	10	23	15
Measles	3	2	4	..	6	5	..	20	20	3	3	5	7	2	..
Mortification	2	1	..	..	..	1	2	2	4	..	2	..	2	1	..
Old age	9	9	8	13	11	17	67	..	67	8	8	10	20	9	15
Neuralgia	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
Palsy	4	7	6	6	8	3	34	..	34	4	5	8	3	6	..
Purpura	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Pyæmia	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Rheumatism	1	1	1	..	2	4	2	6	..	..	1	1	..	1	..
Scrofula	1	2	1	3	1	2	2	8	10	2	3	4	3	2	6
Smallpox	..	..	1	..	..	..	..	1	1	..	..	..	..	..	..
Sore throat	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Stillborn	32	24	25	24	33	28	..	166	166	16	16	25	25	30	28
Syphilis	..	..	..	..	1	1	1	1	2	..	..	..	..	..	..
Tabes mesenterica	2	..	1	..	1	..	..	5	5	..	1	1	..	..	1
Teething	1	..	1	1	2	..	..	5	5	2	..	2	..	1	1
Tetanus	..	1	2	1	..	..	2	2	4	..	1	..	..	2	..
Thrush	..	..	..	..	1	..	..	1	1	..	..	..	..	..	..
Tumours	..	..	..	..	..	1	1	..	1	..	..	..	..	1	1
Ulceration	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..
" of the bowels	..	..	..	1	..	..	1	..	1	..	..	..	..	..	..
" " throat	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1
Unknown	6	3	7	2	6	3	18	9	27	7	4	1	3	2	2
Worms	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..
Totals of the sex	401	355	395	374	525	428	1288	1190	2478	404	322	392	343	482	438

	FIRST QUARTER, Commencing January 1, 1859.						SECOND QUARTER, Commencing April 2, 1859.					
	Jan.	Feb.	March.	Adults.	Minors.	Totals.	April.	May.	June.	Adults.	Minors.	Totals.
Under 1 year	197	214	260	..	..	671	173	181	298	..	..	652
From 1 to 2 years	64	60	98	..	..	222	56	79	92	..	..	227
" 2 to 5 "	55	69	85	..	..	209	78	63	74	..	..	215
" 5 to 10 "	25	24	18	..	..	67	30	22	27	..	..	79
" 10 to 15 "	8	9	17	..	..	34	15	12	16	..	..	43
" 15 to 20 "	18	21	37	..	..	76	22	22	21	..	..	65
" 20 to 30 "	83	82	101	..	..	266	81	81	80	..	..	242
" 30 to 40 "	83	89	86	..	..	258	86	79	86	..	..	251
" 40 to 50 "	64	63	83	..	..	210	56	57	72	..	..	185
" 50 to 60 "	49	46	54	..	..	149	47	49	51	..	..	147
" 60 to 70 "	41	33	45	..	..	119	43	36	43	..	..	122
" 70 to 80 "	37	35	45	..	..	117	22	34	38	..	..	94
" 80 to 90 "	30	20	20	..	..	70	13	15	18	..	..	46
" 90 to 100 "	1	2	4	..	..	7	4	5	3	..	..	12
" 100 to 110 "	1	2	..	..	..	3	..	..	1	..	..	1
Total of monthly mortality	756	769	953	..	..	..	726	735	920	..	..	..
Total males for the quarter	..	..	..	..	..	1321	..	..	..	..	..	1278
" females "	..	..	..	..	..	1157	..	..	..	..	..	1103
" adults "	..	..	..	1199	..	..	..	..	..	1100	..	..
" minors "	..	..	..	..	1279	..	..	..	..	..	1281	..
" for the quarter	..	..	..	..	..	2478	..	..	..	..	..	2381

for 1859—Continued.

QUARTER, April 2, 1859.			THIRD QUARTER, Commencing July 2, 1859.									FOURTH QUARTER, Commencing October 1, 1859.									Total for the year.
			July.		Aug.		Sept.					Oct.		Nov.		Dec.					
Adults.	Minors.	Total.	M.	F.	M.	F.	M.	F.	Adults.	Minors.	Total.	M	F.	M.	F.	M.	F.	Adults.	Minors.	Total.	
18	8	26	5	4	3	1	3	3	6	13	19	2	2	6	4	11	7	12	20	32	119
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2
4	6	10	2	..	3	1	..	1	3	4	7	1	2	1	..	1	3	5	3	8	34
14	5	19	10	3	5	5	3	1	23	4	27	3	2	5	6	4	4	20	4	24	92
39	99	138	4	5	13	11	12	4	11	38	49	14	7	34	28	36	27	39	107	146	544
10	5	15	..	1	1	1	1	3	6	1	7	1	1	1	1	2	5	8	3	11	52
5	1	6	1	1	..	..	..	..	1	1	2	2	..	1	..	1	2	4	2	6	23
30	38	68	10	10	16	11	9	8	28	36	64	12	10	12	10	10	11	40	25	65	257
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	1	1	1
1	1	2	..	..	..	..	..	..	..	..	..	..	..	1	..	2	1	2	2	4	8
2	3	5	1	..	1	1	..	1	1	3	4	..	..	..	1	2	3	3	3	6	23
1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	2	..	2	..	2	4
24	..	24	3	1	6	2	3	..	15	..	15	4	1	7	1	5	2	20	..	20	82
10	74	84	23	33	39	40	16	15	9	157	166	12	4	7	7	7	7	9	35	44	366
..	20	20	1	5	1	2	1	..	..	10	10	..	..	..	..	1	..	..	1	1	51
4	1	5	..	..	1	..	..	1	2	..	2	..	..	1	2	..	..	2	1	3	14
70	..	70	3	10	9	8	6	3	39	..	39	5	2	4	11	7	5	34	..	34	210
1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	1	..	1	2
24	2	26	5	3	5	2	2	4	20	1	21	3	3	3	3	4	3	18	1	19	100
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	..	1	1
..	..	..	..	..	1	..	1	..	1	1	2	1	..	..	..	..	..	..	1	1	3
3	..	3	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	9
5	15	20	..	1	3	2	2	1	1	8	9	1	..	4	7	3	1	5	11	16	55
..	..	..	..	..	1	..	..	..	1	..	1	..	..	..	..	..	..	..	..	..	2
..	..	..	..	1	2	1	2	2	1	7	8	2	3	..	2	1	4	1	11	12	20
..	140	140	22	24	29	27	29	27	..	158	158	29	28	38	36	33	30	..	194	194	658
..	..	..	..	..	..	1	1	..	2	..	2	..	..	..	..	..	1	1	..	1	5
..	3	3	6	4	3	5	3	1	1	21	22	..	2	1	..	1	..	..	4	4	34
..	6	6	2	3	2	1	1	..	..	9	9	..	..	..	..	1	1	..	2	2	22
1	2	3	1	..	1	..	..	..	1	1	2	3	..	..	1	1	..	5	..	5	14
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
2	..	2	..	..	..	..	1	..	1	2	..	2	..	3	1	1	3	2	9	1	10	15
..	1	1	..	..	..	..	..	3	..	2	1	3	1	3	1	2	..	..	5	2	7	11
..	..	..	1	1	..	1	2	..	4	1	5	..	..	..	..	..	..	..	..	..	..	6
1	1	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2
12	7	19	..	2	4	..	3	5	9	5	14	4	2	7	3	4	3	16	7	23	83
..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
1161	1220	2381	496	507	563	474	336	272	1025	1623	2648	337	292	428	428	398	352	1062	1172	2235	9742

	THIRD QUARTER, Commencing July 2, 1859.						FOURTH QUARTER, Commencing October 1, 1859.					
	July.	Aug.	Sept.	Adults.	Minors.	Totals.	Oct.	Nov.	Dec.	Adults.	Minors.	Totals.
Under 1 year . . .	450	395	188	..	..	1033	186	208	219	..	..	613
From 1 to 2 years . .	142	102	59	..	..	303	40	68	67	..	..	175
" 2 to 5 " . .	54	73	36	..	..	163	55	85	88	..	..	228
" 5 to 10 " . .	26	36	21	..	..	83	19	31	15	..	..	65
" 10 to 15 " . .	12	9	15	..	..	36	10	9	8	..	..	27
" 15 to 20 " . .	16	27	22	..	..	65	18	30	16	..	..	64
" 20 to 30 " . .	66	112	57	..	..	235	72	98	75	..	..	245
" 30 to 40 " . .	75	76	62	..	..	213	63	94	54	..	..	211
" 40 to 50 " . .	40	60	50	..	..	150	49	63	59	..	..	171
" 50 to 60 " . .	36	51	32	..	..	119	44	60	57	..	..	161
" 60 to 70 " . .	44	44	32	..	..	120	39	52	41	..	..	132
" 70 to 80 " . .	19	23	19	..	..	61	18	37	30	..	..	85
" 80 to 90 " . .	15	27	13	..	..	55	16	20	20	..	..	56
" 90 to 100 " . .	7	2	1	..	..	10	..	1	1	..	..	2
" 100 to 110 " . .	1	..	1	..	..	2	..	..	..	..	..	..
Total of monthly mortality	1003	1037	608	..	..	..	629	856	750	..	..	..
Total males for the quarter	..	..	..	..	..	1395	..	..	..	..	..	1163
" females "	..	..	..	..	..	1253	..	..	..	..	..	1072
" adults "	..	..	..	965	..	..	..	..	..	1063	..	..
" minors "	..	..	..	..	1683	..	..	..	..	..	1172	..
" for the quarter . .	..	..	..	..	..	2648	..	..	..	..	..	2235

TABLE II.—*Mortality from Diseases of the Lungs and Air-passages.*

DISEASES.	ANNUAL AGGREGATES.			QUARTERS OF 1859.			
	1857.	1858.	1859.	1st.	2d.	3d.	4th.
Angina pectoris	1	...	...	...	...	...	...
Asphyxia	15	37	27	8	8	3	8
Asthma	33	12	22	7	5	3	7
Catarrh	33	22	...	...	...	...	...
Congestion of the lungs	132	78	108	38	22	18	30
Consumption " "	1544	1659	1505	399	379	343	384
Croup	256	292	312	92	59	44	117
Disease of the chest	7	11	...	...	...	...	...
" lungs	53	23	...	...	...	...	...
Dropsy of the chest	48	140	159	32	46	42	39
Effusion on the chest	3	...	...	...	...	...	...
" lungs	4	...	...	...	...	...	...
Emphysema	1	...	...	...	...	...	...
Empyema	1	...	...	...	...	...	...
Gangrene of the lungs	1	...	...	...	...	...	...
Hemorrhage from the lungs	18	...	28	9	9	...	10
Influenza	9	...	...	...	...	...	...
Inflammation of the bronchi	179	100	119	42	26	19	32
" " chest	16	1	...	...	...	...	...
" " larynx	14	...	34	9	10	7	8
" " lungs	504	562	544	211	138	49	146
" " pleura	27	2	23	9	6	2	6
" " trachea	11	...	...	...	...	...	...
Totals	2910	2939	2881	856	708	530	787
Hooping-cough	51	153	52	9	11	14	18
Totals	2961	3092	2933	865	719	544	805
Total mortality, exclusive of stillborn	10338	10162	9084				
Per cent. from diseases of the lungs	28.13	30 43	32.17				
Per cent. from consumption of the lungs	14.93	16.38	16.56				

TABLE III.—*Deaths from Consumption of the Lungs, during each Month in the year* 1859, *at fourteen distinct periods of life, with the Sexes designated for each month.*

AGES.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
Under 1 year	...	...	1	...	...	1	1	1	...	1	1	2	8
From 1 to 2 years	...	...	...	...	...	1	1	1	2	...	1	...	6
" 2 to 5 "	...	...	...	1	...	...	3	2	...	3	1	...	10
" 5 to 10 "	...	...	...	2	1	...	2	2	1	...	2	1	11
" 10 to 15 "	...	...	2	2	...	2	3	1	2	1	1	1	15
" 15 to 20 "	1	7	11	6	8	4	3	15	12	8	20	6	101
" 20 to 30 "	37	45	51	44	36	39	36	61	26	33	54	33	495
" 30 to 40 "	39	44	39	39	34	35	30	28	24	32	38	27	409
" 40 to 50 "	22	18	26	28	13	22	19	16	18	13	12	21	228
" 50 to 60 "	9	7	14	9	12	9	2	7	7	10	14	16	116
" 60 to 70 "	4	3	5	9	7	7	10	2	3	7	8	7	72
" 70 to 80 "	6	1	3	1	2	3	...	1	...	2	3	1	23
" 80 to 90 "	3	...	1	1	...	1	...	...	...	2	1	1	10
" 90 to 100 "	...	...	...	...	...	...	1	...	...	...	...	...	1
Male	65	68	78	72	66	68	54	70	49	51	74	65	780
Female	56	57	75	70	47	56	57	67	46	61	82	51	725
Monthly totals	121	125	153	142	113	124	111	137	95	112	156	116	1505
Quarterly totals		399			379			343			384		1505

TABLE IV.—*Mortality from Diseases of the Nervous System.*

DISEASES.	ANNUAL AGGREGATES.			QUARTERS OF 1859.			
	1857.	1858.	1859.	1st.	2d.	3d.	4th.
Apoplexy	115	111	92	24	21	16	31
Chorea	1	...	...	...	...	...	...
Coma	1	...	...	...	...	...	...
Concussion of the brain	7	1	...	...	...	...	...
Congestion of the brain	201	241	214	54	47	65	48
Convulsions	556	609	520	156	125	130	109
Coup de soleil	6	26	5	...	1	4	...
Cramp	10	...	...	...	...	...	...
Disease of the brain	100	134	141	33	43	37	28
Dropsy of the brain	173	261	234	57	70	72	35
Effusion of the brain	92	72	76	22	15	28	11
Epilepsy	18	2	7	...	...	1	6
Inflammation of the brain	306	315	330	98	88	91	53
Mania or insanity	7	9	4	1	1	...	2
Mania à potu	62	85	82	23	24	15	20
Neuralgia	...	1	2	...	1	...	1
Palsy	92	105	100	34	26	21	19
Softening of the brain	14	3	...	...	...	...	...
Teething	17	12	22	5	6	9	2
Tetanus	11	13	14	4	3	2	5
Trismus	2	...	...	...	...	...	...
Totals	1791	2000	1843	511	471	491	370
Total mortality, exclusive of stillborn	10338	10162	9084				
Per cent. of total mortality	17.33	19.58	20.28				

TABLE V.—*Mortality from Diseases of the Organs of Nutrition.*

DISEASES.	ANNUAL AGGREGATES.			QUARTERS OF 1839.			
	1837.	1838.	1839.	1st.	2d.	3d.	4th.
Abscess	35	31	34	13	9	3	9
" of the liver	1	...	1	...	1	...	...
Cancer of the stomach and bowels	7	...	39	11	12	9	7
Cholera	3	...	...	...	...	...	...
" infantum	534	662	408	...	79	321	8
" morbus	10	53	24	...	6	18	...
Cirrhosis of the liver	3	...	...	...	...	...	...
Colic	7	...	...	...	...	...	...
Constipation	...	1	...	...	...	...	...
Consumption of the bowels	5	...	...	...	...	...	...
Diarrhœa	119	138	126	19	21	75	11
Disease of the liver	41	68	12	2	10	...	...
" stomach and bowels	17	12	...	...	...	...	...
Dropsy	239	95	...	...	...	...	...
" abdominal	6	...	...	...	...	...	...
Dysentery	198	240	129	12	42	63	12
Dyspepsia	2	1	1	...	...	1	...
Gout	5	1	3	2	...	1	...
Icterus	11	16	23	8	5	4	6
Inflammation of the liver	25	30	92	22	19	27	24
" " peritoneum	56	55	52	19	15	7	11
" " stomach and bowels	299	273	257	60	68	64	65
Intussusception	4	2	8	2	2	...	4
Marasmus	506	463	366	72	84	166	44
Obstruction of the bowels	2	2	...	...	...	...	...
Scrofula	51	54	55	10	20	9	16
Tabes mesenterica	44	56	34	5	3	22	4
Ulceration of the stomach and bowels	6	...	6	1	5	...	...
Totals	2236	2253	1670	258	401	790	221
Total mortality, exclusive of stillborn	10338	10162	9084				
Per cent. of total mortality	21.62	22.17	18.38				

TABLE VI.—*Mortality from Diseases of the Urino-Genital Organs.*

DISEASES.	ANNUAL AGGREGATES.			QUARTERS OF 1859.			
	1857.	1858.	1859.	1st.	2d.	3d.	4th.
Albuminuria	7	1	...	...	...	...	...
Amenorrhœa	...	...	1	...	1	...	...
Cancer of uterus	4	...	52	12	7	21	12
Childbed	7	1	...	...	...	...	...
Chlorosis	1	...	1	1	...	...	...
Convulsions, puerperal	1	...	...	...	...	...	...
Diabetes	7	3	3	1	...	1	1
Disease of the bladder	1	1	...	...	...	...	...
" kidneys	8	...	21	5	...	5	11
" ovaries	2	...	...	...	...	...	...
" uterus	2	...	...	...	...	...	...
Fever, puerperal	49	36	51	16	12	13	10
Hemorrhage from uterus	5	...	7	3	2	...	2
Inflammation of the bladder	9	3	...	...	...	...	...
" " kidneys	7	7	2	2	...	...	...
" " uterus	8	...	...	...	...	...	...
Rupture of the urethra	1	...	...	...	...	...	...
Strangury	...	8	...	...	...	...	...
Suppression of urine	3	...	...	...	...	...	...
Syphilis	2	3	5	2	...	2	1
Tumour, ovarian	1	...	...	...	...	...	...
Ulceration of the uterus	1	...	...	...	...	...	...
Totals	126	63	143	42	22	42	37
Total mortality, exclusive of stillborn	10338	10162	9084				
Per cent. of total mortality	1.21	0.62	1.75				

TABLE VII.—*Mortality from Fevers.*

DISEASES.	ANNUAL AGGREGATES.			QUARTERS OF 1858.			
	1857.	1858.	1859.	1st.	2d.	3d.	4th.
Fever	3	...	...	...	...	...	...
" bilious	25	43	24	6	12	5	1
" cerebral	2	1	...	...	...	...	...
" congestive	5	1	...	...	...	...	...
" continued	2	...	...	...	...	...	...
" enteric	2	...	5	...	...	1	4
" gastric	4	...	...	...	...	...	...
" hectic	2	...	...	...	...	...	...
" intermittent	5	2	5	...	...	1	4
" malignant	...	...	...	...	...	...	...
" nervous	9	1	...	...	...	...	...
" pernicious	...	...	...	...	...	...	...
" puerperal	49	36	51	16	12	13	10
" remittent	23	17	23	2	1	13	7
" scarlet	704	241	232	67	53	28	84
" typhoid	175	197	264	74	68	67	55
" typhus	38	71	47	14	14	12	7
" " icterodes	...	16	...	...	...	...	...
" yellow	...	...	...	...	...	...	...
Totals	1048	626	651	179	160	140	172
Total mortality, exclusive of stillborn	10338	10162	9084				
Per cent. of total mortality	10 13	6.16	7.16				

TABLE VIII.—*Deaths, showing the Sexes, for each Month in the Year, and the Number at Fifteen Distinct Periods of Life, with the Percentages at each Period to the Total Mortality, Exclusive of Stillborn—also the number of Stillborn Children for each Month, and their Sexes.*

Months.	Stillborn.			Males.	Females.	Boys.	Girls.	Under 1 year.	1 to 2.	2 to 5.	5 to 10.	10 to 15.	15 to 20.	20 to 30.	30 to 40.	40 to 50.	50 to 60.	60 to 70.	70 to 80.	80 to 90.	90 to 100.	100 to 110.	Total.	Monthly per cent. of deaths to total.
	M.	F.	Total.																					
January	32	24	56	401	355	188	179	197	64	55	25	8	18	83	83	64	49	41	37	30	1	1	756	7.76
February	25	24	49	395	374	210	187	214	60	69	24	9	21	82	89	63	46	33	35	20	2	2	769	7.89
March	33	28	61	525	428	286	229	260	98	85	18	17	37	101	86	83	54	45	45	20	4	...	953	9.78
April	16	16	32	404	322	211	163	173	56	78	30	15	22	81	86	56	47	43	22	13	4	...	726	7.46
May	25	25	50	392	343	199	180	181	79	63	22	12	22	81	79	57	49	36	34	15	5	...	735	7.54
June	30	28	58	482	438	275	253	298	92	74	27	16	21	80	86	72	51	43	38	18	3	1	920	9.45
July	22	24	46	496	507	344	356	450	142	54	26	12	16	66	75	40	36	44	19	15	7	1	1003	10.29
August	29	27	56	563	474	340	302	395	102	73	36	9	27	112	76	60	51	44	23	27	2	...	1037	10.64
September	29	27	56	336	272	196	145	188	59	36	21	15	22	57	62	50	32	32	19	13	1	1	608	6.24
October	29	28	57	337	292	172	156	186	40	55	19	10	18	72	63	49	44	39	18	16	...	...	629	6.46
November	38	36	74	428	428	213	218	208	68	85	31	9	30	98	94	63	60	52	37	20	1	...	856	8.78
December	33	30	63	398	352	215	198	219	67	88	15	8	16	75	54	59	57	41	30	20	1	...	750	7.69
Totals	341	317	658	5157	4585	2849	2566	2969	927	815	294	140	270	988	933	716	576	493	357	227	31	6	9742	
Per ct. of totals				52.83	47.06	29.24	26.34	30.47	9.51	8.26	3.01	1.43	2.77	10.14	9.57	7.35	5.90	5.06	3.66	2.22	0.31	0.06		

Table I. The mortality of our city for 1859, as found in this table, which is in accordance with the record furnished at the health office, has amounted to 9,742. This number of deaths is 955, or nearly 9 per cent. less than those for 1858, and 12.19 per cent. less than the average of deaths for the past four years.

Should the population of Philadelphia reach the estimate recently ascribed to it in our daily journals, of 650,000—which is a liberal calculation—the mortality gives but one death in every 66.72 of the population, or 14.98 deaths to every 1,000 living. Not willing, however, to be adjudged as introducing an exaggerated statement into my report, I prefer to fix the standard at what I conceive to be a more reliable calculation, and base the estimates upon a population of 625,000. From this assessment, it will be found that the deaths amounted to only 1.55 per cent.—or equal to 1 in every 64.15—or as 15.58 in each 1,000 of the population.

This death rate of 15 in each 1,000 of the population, is less by 2 in 1,000, than the standard affixed to the death rate of about a million of people residing in sixty-four districts selected from various parts of England, and who were living under the least unfavourable sanitary condition. It will be remembered, also, that the death rate in large cities is affixed at a much higher point than in rural districts. In London, it is 25 in every 1,000. In New York city in 1859, estimating the population at 800,000, the death rate was 27 in 1,000.

A comparison of the rate of mortality to population of our own with several other cities, will show still more clearly the striking difference in the death rate pressure upon populations in different places.

	Population.	Mortality.	Ratio of deaths to pop.	Deaths to each 1,000.	Per cent. of deaths to pop.
Providence .	52,000	982	1 in 52.09	19	1.83
Boston . .	180,000	3,738	1 in 48.15	21	2.07
New York .	800,000	21,645	1 in 36.09	27	2.70
Philadelphia	625,000	9,742	1 in 64.15	15	1.55
Baltimore .	253,000	5,039	1 in 50.02	20	2.

These figures are from official records, and may be relied upon. Consulting the several death rolls, we will have an approximation, at least, towards a comparison of the healthiness of the cities named. The most glaring inequality will be found to exist between the death rate to population of our own city, and that of our sister city New York. Notwithstanding this marked disparity of the low rate of 1 in 64.15 in this city, and the high rate of 1 in 36.09 in New York; the city inspector of the latter city holds the following language in his annual report—"New York city at this day can lay claim to the privilege of being numbered with those of the most healthy in the world." It is unnecessary to comment upon this extraordinary statement, when the above figures contradict so positively the assertion; still, it is to be regretted that the inspector had not availed himself of the above statistical information, which would have obliged him to have presented a widely different statement, although one indicating a more

severe pressure of sanitary evils upon the health of their population, than his report develops.

Providence, R. I., has of late been characterized as one of the best regulated cities in the country, in a sanitary point of view. My knowledge of the accurate manner in which the city registrar, Dr. Snow, performs the duties of his office, especially in that department which relates to the hygienic defences of life, confirms this opinion. Nevertheless, in comparing the figures in the above table, I find that the death rate in our own city is as 1 in 12 less than in Providence, and 4 deaths fewer in every 1,000 living; while the percentage of deaths to population is $\frac{28}{100}$ less. In each of the other cities named, in the above table, the difference is still greater in favour of the health of Philadelphia.

The returns, therefore, of deaths for 1859, present a very high standard of salubrity for our city, equal to, if not surpassing, that of the most healthy city in the world.

Nor should I be surprised, if the correctness of our returns made to the health office of the mortality of the city be questioned by sanitarians abroad. In order to meet this distrust, I have instituted a rigid scrutiny into the manner by which the weekly returns of deaths are made at the health office, and the sources from whence they are received, but am unable to discover any defect upon which I could build a reasonable doubt that they do not comprehend all the interments that are made during the year.

The unusual health of our city during the year, has been the subject of frequent discussion among the fellows of this College, as well as by the papers of the day; and I feel assured that every practising physician is competent to furnish a commentary, illustrative of the fact that there has prevailed an unusual scarcity of cases of disease.

No epidemic has visited us, nor have our usual endemics prevailed to any extent. In many instances the diseases of the different seasons have been less frequent and more mild in their character.

During the fall and winter months and in the early spring, croup, and inflammation of the bronchia and lungs among children were the prevailing diseases. With croup, there was observed the steady increase in the number of fatal cases which I have alluded to in several former reports. In inflammation of the lungs, the deaths did not reach the number recorded for 1858. There was nothing, however, unusual in any of the winter diseases, beyond their general characteristics. Scarlet fever, which had prevailed to a great extent for several previous years, was still among us when the year opened. For the most part, the cases which occurred did not present a highly malignant type of fever, and yielded readily to a mild treatment. The deaths, however, were nearly equal to those of the previous year, and amounted to 232.

I cannot omit to mention in this place the appearance of a few cases of diphtheria, or malignant or putrid sore throat. Towards the latter end of the year these cases increased in number; several of them were fatal, but

whether they were certified to and classed in the record with sore throat, scarlet fever, or croup, I am unable to determine, as I find no death recorded from diphtheria. I did not witness a single malignant case of this fatal disease in my own practice, but in a number of cases of sore throat, accompanied with high fever, vomiting, frequent pulse and red tongue, which came under my care, I observed a remarkable tendency to congestion of the mucous tissue of the fauces of a dark livid hue, to the exudation of a whitish plastic lymph and minute points of ulceration. These cases were accompanied with great debility of the system. They were evidently characteristic of the epidemic of diphtheria, but in a mild form, as none proved fatal.

None of these cases were in any manner involved with scarlet fever, and in one instance the patient had passed through that disease a few months previously thereto. Nor did any of them resemble croup.

How nearly this malignant form of disease which has prevailed in several of our large cities and towns, to an extent sufficient to create alarm, is identified with scarlet fever, or with membranous croup, or whether it derives its origin from a distinct and peculiar poison, becomes an important question for solution. The indications are, that ere long we may have to combat this formidable enemy, which, as yet, particularly in its malignant type, has resisted, in a majority of instances, the most watchful and judicious treatment.

The invasion of cholera infantum took place about the usual period of the summer, and was most prevalent in July. Its ravages by death, however, were not so great by 254, as during the previous year. The number of deaths recorded were 408, a less mortality, compared to population or deaths from all diseases, than has occurred for many years. The cause of this remarkable diminution in the deaths from this infantile endemic may be ascribed, in part, to the favourable condition of the summer heat, which was 2 degrees below the average for the previous eight years, to the absence of a choleraic influence, and the increased facilities for hygienic protection afforded that class of the population who are deprived of the advantage of a pure atmosphere in their unventilated houses. They are now enabled by cheap rides, in easy and commodious city railroad cars, in almost every direction, to reach within a few minutes the rural environs of our city, where, with their feeble, sickly and emaciated offspring, they can enjoy the luxury of inhaling the pure, cool and invigorating air of the country.

Of the entire number of deaths for the year, 5,157 were males, and 4,585 were females. This proportion shows an excess of deaths in the males of 12.52 per cent., and is in keeping with the records of our mortality of sexes for a number of years past.

Stillborn children foot up 658 during the year. These, with the deaths from casualties of various kinds, and from debility and old age, amounting in all to 1,709, should be deducted from the total mortality, in order to ascertain more correctly the deaths from morbific causes. By this arrange-

ment I find that only 8,033 deaths, or one in every 76.5 of the population, were caused by the effect of diseases, thus presenting our sanitary position in a still more favourable light.

Of all the deaths, including stillborn, 2,969 perished before the expiration of the first year of life. Between the ages of one and two, 927 died; between two and five, 815; between five and ten years, 294. It will be seen, therefore, that 5,005, or 51.37 per cent., more than half of the annual mortality, occurred before the tenth year of life. This large proportion of infant mortality in our city, presents a melancholy picture of the continued prevalence of every variety of sanitary evils, not exempting swill milk. These, together with the mismanagement of children on the part of parents and others, who have the oversight of this interesting portion of our population, are the prominent causes for the fatality among them. In several former reports, I have called the attention of the fellows of the College to this single item of our annual mortality. I would again impress upon them the importance, nay the sacred duty, not only of arousing the public conservators of health to the necessity for the institution of a sanitary medical police, but the enforcement of ordinances drafted in accordance with the laws of health and life. Nor is it of less importance, through a special committee, to make such inquiries and investigations, as will lead to a knowledge of the true causes of the alarming waste of infantile life. This course of action may lead to measures of sanitary reform, that will prove influential not only in removing the various preventable causes of disease that exist in our midst, but in diminishing the fearfully increasing amount of infant mortality.

The deaths under twenty years were 5,415, while those above that age were 4,327. This division gives 55.58 per cent. of the mortality to children, or those under twenty, that period constituting the division line between adults and children. In 1858, the deaths in New York city, of those under twenty, were 67.70 per cent. of the whole number, an excess of 14.32 per cent. over those of our own city for the same year and the like period.

The highest number of deaths recorded in any one decennial period, beyond those in the first ten years of life, will be found between twenty and thirty years, amounting to 988. From this period, the deaths gradually decreased, in each succeeding decade, up to between eighty and ninety, when they were 227. Beyond that age, the number of deaths reached but 37, and of these, only six were centennarians.

The greatest mortality in any month was in August, viz., 1,037; while the least, 608, was in the following month of September. July, however, presented the highest rate of mortality among children, or those under 20 years, to wit, 700.

I have prepared the following table to illustrate, at a glance, the diseases which have been so fruitful during the year in swelling the amount of mortality among children, together with the number of deaths from each source, and the monthly periods when they proved most fatal.

Mortality among Children.

DISEASES.	Annual total.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	HIGHEST MONTH.	LOWEST MONTHS.
Congestion of the brain . .	131	6	9	13	6	7	14	19	18	8	10	11	10	July	January and April.
Cholera infantum . . .	408	...	...	...	6	10	63	194	104	23	7	1	...	July	Jan., Feb., Mar., and Dec.
Convulsions	488	37	57	51	27	42	52	43	52	26	25	46	30	February	October.
Croup	311	34	28	30	27	21	10	16	16	12	28	53	36	November	June.
Debility	253	24	16	30	15	18	27	33	31	14	16	10	19	July	November.
Dropsy of the brain . . .	230	16	20	19	20	21	29	35	25	12	10	10	13	July	October and November.
Fever, scarlet	232	11	28	28	15	13	25	8	15	5	16	29	39	December	September.
Marasmus	328	13	16	32	15	26	33	53	75	30	13	13	9	August	December.
Inflammation of the brain .	275	28	22	32	29	16	29	27	28	25	12	16	11	March	December.
" " lungs .	398	48	45	61	45	32	22	9	18	11	17	39	51	March	July.
Total	3054	217	241	296	205	206	304	437	382	166	154	228	218		
Stillborn	658	56	49	61	32	50	58	46	56	56	57	74	63	November	April.
	3712	273	290	357	237	256	362	483	438	222	211	302	281		

This table furnishes an account of 3,054 deaths. Of these, 2,396 are charged to only ten diseases, and 658 are recorded stillborn. Convulsions maintains its ascendency over all other diseases of infancy, in producing death. It numbers 488, and exceeds cholera infantum by 80. The seasons of the year appear to exert very little influence upon the deaths from convulsions, as there is a striking uniformity in the numbers for each month. Not so, however, with cholera infantum and croup. In the former, there is a great disparity, as during the three winter, and the first spring months, there was not a single death recorded; while in the month of June there were 63; in July, 194; in August, 104 deaths. Croup was most fatal in November, when there were 53 deaths, and least fatal in June, when there were only 10 deaths. The winter months also proved more fatal than the spring or summer.

Marasmus was the cause of 328 deaths inserted in this table. The summer months exhibit a large increase over all others. The highest rate was in August, 75, and the lowest in December, 9.

Inflammation of the lungs, which stands quite prominent, furnished 398 deaths, and was most fatal during the winter and spring months.

The stillborn, numbering 658, which I have added to this table, and are equal to about 7 per cent. of all the deaths, present less than the usual uniformity of numbers for each month. The highest rate of these deaths was in November, viz., 74, and the lowest 32, in April. The months of January, June, August, September, and October, however, varied only between 56 and 58 in each month.

Table II. The deaths from diseases of the lungs and air-passages are given in this group, and amount to 2,933, or 32.17 per cent. of all the deaths for the year, exclusive of stillborn. This percentage shows higher than in 1858, when it was only 30.43 per cent., for the reason that the annual aggregate mortality is less than in 1858.

The most striking feature in this table is the falling off of the deaths from hooping-cough, as compared with the previous year, when they rated 153. This year, they were only 52, a decrease of 101, equal to 66 per cent.

Croup, which I have already alluded to, is still on the increase. The first and last quarters of the year, which include the winter months, present the highest mortality.

Asthma, congestion of the lungs, dropsy of the chest, inflammation of the bronchia and pleura, show a small increase of deaths over the previous year, whereas, the deaths from consumption of the lungs, and inflammation of the lungs, have declined.

Table III. contains a statistical enumeration of the deaths from consumption of the lungs, amounting to 1,505. It furnishes also the periods

of the year, and the time of life, when the disease has proved most fatal, together with a designation of the sexes, and the monthly and quarterly mortality.

The deaths from consumption this year are 9 per cent. less than they were in 1858. Another change will be discovered, in regard to the proportion of sexes; as, contrary to the usual rate, the excess in this instance is on the side of males, equal to 7.57 per cent. above those in females.

This disease is productive of a large amount of our annual mortality. The fatal cases are equal to 61 per cent. of all the deaths from the diseases of the lungs and air-passages; and of the annual aggregate mortality, they form nearly 19 per cent. To the population, they are as 1 to every 415.29, or 2.40 in every 1,000.

The heaviest mortality was between the ages of 20 and 30, while the month of November records the greatest number of deaths, viz., 156. The fewest deaths, 95, occurred in September. The first quarter of the year contributed the largest number of deaths.

Table IV. records the deaths from diseases appertaining to the nervous system, amounting to 1,843, or 20.28 per cent. of the entire mortality.

The highest mortality from any one disease in this table is claimed by convulsions, which amounts to 520, or 28.22 per cent. of all the deaths in this group.

The diseases coming under this head not being influenced by the seasons to the same extent as many of those are in other classes, the uniformity in the number of deaths occurring from month to month, and even from year to year, is but little affected, unless it may be in the instance of coup de soleil, which is an exception. An examination of the record of deaths for several years back, will present only a slight disparity in the numbers for the different quarters of each year.

Table V. The diseases belonging to this class, the organs of nutrition, return a mortality of only 1,670, or 18.38 per cent. of the annual deaths. The falling off of the deaths in this group from those of last year, is equal to about 4 per cent. The disproportion is caused principally by the less number of deaths from cholera infantum, dysentery, and marasmus. These three diseases alone make a difference of 462 deaths in the table, when compared with those of the previous year. The diminished number of deaths from cholera infantum, which has always rated next highest to consumption in these tables, is strikingly perceptible, to which circumstance I have already alluded.

The diseases noticed in this table are chiefly those which happen during the warm seasons of the year; hence it will be found that the 2d and 3d quarters furnish the largest proportion of deaths, equal to 148.62 per cent. over the 1st and 4th quarters.

The large increase of deaths from inflammation of the liver, is worthy of notice. The average of deaths from this disease for the three previous years was 31⅓; this year, 1859, they were 92, nearly equal to the number for the three former years. I am not prepared to assign any cause for this increase.

Table VI. Those who examine this table of deaths from diseases of the urino-genital organs, will be struck with the comparative increase over those of the previous year. The number in 1858 was 63. In 1859, they are set down at 143, a difference of eighty. A little explanation will place this disparity in its true light. In 1858, all the deaths from cancer of the different organs were placed in the health office reports under one general head, cancer; hence the deaths from cancer of the uterus were not found in this table. This year the deaths from cancer having been distinguished according to their location, increases this table 52. The only real increase, therefore, over the deaths of 1858, is to be found in puerperal fever and disease of the kidneys, amounting to 36.

There has been a perceptible increase of deaths from puerperal fever. They now number 51, or fifteen over those for 1858. The highest number for any period occurred in the first quarter, the coldest season of the year. The proportion of deaths in this table to the entire mortality, was 1.75 per cent.

Table VII. Like the mortality from fevers during 1858, so this table, the present year, exemplifies the healthy condition of our city, when placed in contrast with those of former years, and with the deaths from fevers, in other large cities. The proportion, to the mortality from all causes, exclusive of stillborn, is 1 in every 13, or 7.16 per cent. It rates about alike with that of the former year. The slight increase of percentage is owing to decrease in the general mortality for the year.

The deaths from scarlet fever in this table give nearly the like number as in 1858, viz. 232. The epidemic influence still lingers with us, and according to the returns for the last quarter, may be on the increase.

I have omitted the table for measles, smallpox, and varioloid. The deaths from measles amounted to 51. Of these, 40 occurred in the two first quarters of the year, ten in the third, and only one in the fourth quarter. By this, it would appear that our city at this time is almost free from measles.

Of deaths from smallpox, but two are found during the entire year, and none from varioloid.

I cannot refrain from expressing the conviction, judging from the evidence afforded by the statistics of former years, that ere long our city may suffer from an epidemic influence, which shall inflict upon us that most loathsome of all diseases—smallpox. Adopting this opinion, I regret to

add that we are by no means in a proper state of protection, so far as relates to prophylactic measures, to contend with this dangerous enemy to life, from the fact that, for several years, public vaccination has been fearfully neglected, through the supineness of our public authorities, in declining to appoint collectors of cases for vaccination, as in former years. As a consequence of this omission, only 195 persons were vaccinated under this ordinance during the year. No censure whatever can be laid upon the medical gentlemen appointed by Councils as vaccine physicians. Their duty is to vaccinate, gratuitously, all persons who call upon them at their offices, which duty they have faithfully performed. The imperfection exists in the want of collectors of cases, who shall make house to house visits in the several wards, and gather the names and residences of the hundreds of children, and even adults, who are unprotected by vaccination, and who, in the event of an epidemic of smallpox, will fall victims to its ravages. For the past six years, but few of those for whom this humane ordinance is intended, have undergone the process of protection, when compared with the many who received its benefit in previous years, under the ordinance recognizing collectors of vaccine cases. On more than one occasion, the Board of Health has called the attention of Councils to the importance of an improved system of vaccination, but without any favourable response. The medical profession has spoken its mind freely on this subject, and in the event of an epidemic of smallpox visiting our city in its present unprotected state—so far as public vaccination is concerned—let the censure fall where it properly belongs.

Table VIII. furnishes an analytical view of the mortality for the year, arranged in numerical order. The number of stillborn, with the sexes, for each month. The monthly deaths, with the sexes, at fifteen different periods of life. The number of boys and girls, or those under 20, that have died, are all enumerated. A calculation of percentages of deaths for each month to the whole number of deaths is given, together with the percentages for the several designated periods of life. This table will be found useful in the preparation of comparative tables.

Births.—For several years previous to the organization of the present board of health, no systematic effort had been made to secure a record of the births in our city. Owing to this delinquency, the reports sent to the health office were so limited in number, as to render their publication useless. This circumstance is to be regretted, as it leaves a blank in the birth statistics of our city, which can never be filled otherwise than by inference.

The following table gives the number of births in our city for 1859, as far as they have been returned at the health office.

1859.	Males.	Females.	Total.
January	684	633	1317
February	597	577	1174
March	621	563	1184
April	613	511	1124
May	632	575	1207
June	551	575	1126
July	635	589	1224
August	644	605	1249
September	686	580	1266
October	655	623	1278
November	639	622	1261
December	712	710	1422
Total . . .	7669	7163	14,832

An examination of the above figures, shows an aggregate of 14,832 births. A majority of these are males, amounting to 7669 or 51.70 per cent. of the whole number, while the females numbered 7163 or 48.29 per cent., showing a preponderance of male births for the year, equivalent to 3.41 per cent. This excess of boy births, in the proportion of the sexes, according to the experience of Villermè, Emerson, and other statisticians, indicates a favourable condition of the health, prosperity and vigor of a community. Hence it furnishes additional evidence of the good health of our city for the year.

The births are stated in this table for each month of the year. December appears to have been the most fruitful in births, yielding 1422; April the least so, furnishing only 1124; June gave only 1126. These returns demonstrate that March was the most prolific in conceptions, while August exhibited the least fecundity.

The ratio of births to population, according to these returns, gives 1 to every 42.13. In the city of Boston for 1858 it was, 1 to every 30.35 In the city of Providence for the same year, 1 to every 29.15.

From these comparative estimates, the inference is drawn, that our returns of births are not sufficiently accurate to warrant any reliable statement, as to the proportion of births to population. For no reason can be adduced why the producing part of our community should not be equal to that of England, where, according to the reports of the Registrar-General, there is 1 to every 31 of the population. Moreover, as it is undoubtedly true, that large cities furnish a still greater proportion than States or countries at large; therefore, based upon this evidence, our birth returns should amount to about 20,000.

When compared with the deaths, the returns of births present an excess of 4913; a gain to the population, equal to 50 per cent. of the mortality.

BOYLSTON PRIZE ESSAY.

ART. XV.—*Tubercle—its Pathology, and especially its Relation to Inflammation.* By C. ELLIS, M. D., of Boston.

IN the attempt to elucidate the above question, it is not necessary that an exposition should be made of all that has been written upon tubercle. It is only within the last few years that the subject has been properly discussed, and that new and more accurate methods of investigation have been brought to bear upon it. We wish to know, therefore, what ideas prevail with regard to it *now*—the facts of to-day, which necessarily include the real facts of the past.

As the basis for the inquiry into which we are about to enter, we shall endeavour to give as concise a description as possible of tubercle, as it is now regarded by the best observers, such as Virchow, Rokitansky, Lebert, and Paget, limiting ourselves to facts. We shall afterwards consider the real meaning and bearing of these facts, judging them by cases drawn from our own experience and that of others.

The very object of the present essay being to give if possible an idea of the real nature of tubercle, we will not attempt to frame any comprehensive definition at the commencement, but hope to show clearly when our work is done, that much of that which is called tubercle is nothing of the kind, and, perhaps, to show approximately what the peculiar product is.

In the usual descriptions of tubercle its properties are so intermingled, and confounded with accidental appearances that but few gain any precise idea of them. This confusion seems entirely unnecessary, as, like other visible objects, it has some features which are constant—which belong to it, as a tubercle, and these it should be the object of the writer to show, keeping carefully out of sight modifications, which are the result of accident, and which may be alluded to in their proper place. Our first labour must, therefore, be the separation of the materials, which we are to use, in order that each part may find its proper place. In rearranging them, the most natural method to pursue appears to be that of describing, first, the most obvious properties, such as form, colour, consistence; then those which require a more accurate and profound investigation.

Form or Configuration.—We shall first speak of the form, that is, the configuration of tubercle. Now tubercle, unlike a crystal, a plant, or an animal, has no definite form. It is always an infiltration. Its configuration is often the result of accident, and, yet, variations attributable to this have been seized upon and made the basis of subdivisions, which have only added to the previously existing obscurity. To speak practically, however, we meet with it in two forms and two only; one regular, spheroidal, as by growth from a centre; the other irregular, as if the result of infiltration among the tissues. Under these two heads may be classed every variety mentioned.

The nodules in the first form vary in size, from those which are just perceptible to those several inches in diameter. To the smaller, the term tubercle is more applicable, or, at least, more often applied than to the latter, which would probably be spoken of as tubercular collections or tubercular masses; still they have a certain regularity of outline.

In the second form, the product is met with as an infiltration, extending irregularly among the tissues, and often occupying large portions of organs. In connection with these masses will be frequently seen minute points of the same material—a kind of tubercular dust—by the aggregation of which the larger portions appear to be formed, but, in the latter, the component particles are not distinguishable in the same manner as the small rounded bodies above described, when they are collected together in groups. This infiltrated variety is not unfrequently primitive, according to Rokitansky, but, still more frequently, isolated tubercles pre-exist.

Colour.—Its colour is gray or yellow. When gray, it is semi-transparent, pearly, at times almost vitreous in appearance; when yellow, opaque. The shade of yellow is important. According to Lebert, it is never of an orange or ochre colour.

The gray and yellow colours are met with in both forms of tubercle, and sometimes the two are mingled, a gray granulation being perhaps yellow in the centre, or a large mass partly of one, partly of the other hue.

Consistence.—The consistence varies according to the stage in which the product is examined. We sometimes find near the firmer portions, a viscous synovia-like fluid, resembling in color the gray tubercle, of which, according to some, it is the earlier stage; Lebert, however, regards it as an exudation from which connective tissue is formed.

Gray tubercle is usually quite firm, elastic, difficult to subdivide with the dissecting needles, and when divided it breaks into fragments. Sometimes, however, it is soft and may be crushed into a continuous layer.

The yellow variety is softer, caseous, more brittle, and readily crushed.

Vascularity.—The question of vascularity has been so much discussed that it must be noticed here, although it is introducing among positive characters, what has no existence. Without referring to the statements made *pro* and *con*, it is sufficient to say that, where bloodvessels are found within a tubercular mass, they belong to the tissue in which it lies, and not to the tubercle, which is from its very nature non-vascular.

Microscopic Characters.—In endeavouring to ascertain whether there be in tubercular matter anything which the microscope can detect, we should if possible choose a part of the body, of which the natural elements are so simple as to furnish nothing which can simulate those of the new formation. Though all writers do not refer to this point there is sufficient correspondence between their observations to lead us to believe that proper precautions have been taken. Certain accidental products are, however, common to tubercle everywhere, and these we shall mention in their proper place.

The elements detected by the microscope are supposed to be common to both the gray and yellow varieties, and we will for the present accept this view, reserving for the future a more thorough examination of the question.

We must first make a distinction between the corpuscular elements and the substance which unites them.

The former may be subdivided into those belonging to the product when in a perfect state, and others probably resulting from some degenerative process or other change. Here, too, we are following the generally received

opinion, with the intention of modifying it hereafter in conformity with our own views.

In the class first mentioned we have—

1. Minute molecules or granules, scattered in abundance throughout the mass, particularly in the yellow variety. All of these are not similarly affected by chemical reagents, the greater part remaining unchanged after the addition of the acids, alkalies, or ether. These have been regarded as modified protein compounds. We have, mingled with these, however, many fat globules.

2. Nuclei from 0.004 to 0.009 millimetres in diameter, either roundish or oval, usually containing in their interior some granules and a nucleolus.

3. Nuclei of various shapes without distinct nucleoli, and more or less defective, as is shown by their wrinkled irregular outlines.

4. Nucleated cells, according to Paget, misshapen, withered, and irregular, or, as Wedl states, sometimes elongated, and constituting merely the external layer of the new formation.

5. Compound cells of large size, and containing a number of nuclei.

6. The so-called tubercle corpuscles. Although these have a somewhat irregular angular outline, their form generally approaches the round or oval. A high power is necessary for their examination, as they are only from 0.005 mm. to 0.0075 mm. in diameter. A more or less transparent substance, and molecular granules fill the interior.

The above are the elements most commonly described in connection with tubercle. Although they may be accidental, it was thought advisable to separate them from those which are undoubtedly so, and which are—

1. Fragments of the various tissues involved in the disease.

2. Various products of inflammation, perhaps undergoing degeneration, such as pus-corpuscles, granular cells, or masses, etc.

3. Fat; sometimes in the form of vesicles, sometimes as granules of elaine or stearine.

4. Cholesterine, which, according to Lebert, is found only in cretaceous tubercle.

5. Calcareous granules found in the cretaceous tubercle, composed of the phosphate and carbonate of lime. These sometimes form shapeless masses.

6. Prismatic crystals, which are, however, very rare.

7. Pigment, which is met with in three forms according to Lebert; in grains, as spots, and as spherical melanic globules filled with black granules. This pigment, as the same author states, has never been found in the interior of the so-called tubercle-corpuscles.

8. Concentric colloid corpuscles are mentioned by Wedl.

We must now consider the interglobular substance, which unites the elements above described. This is pretty firm and semi-transparent, but presents no filamentous appearance. It is most abundant in the gray variety, and is more or less filled with molecules in the yellow.

Chemical Characters.—When we consider the difficulty of separating the tubercular matter from the tissues in which it lies, it will easily be understood that the results of a chemical investigation cannot be very satisfactory. Nothing peculiar to, or which throws any light upon the nature of the disease has yet been discovered. It is hardly worth while, therefore, to copy analyses, which would be useless in our present inquiry, since they are always accessible to those interested in them.

Metamorphoses.—Tubercle being unorganized and non-vascular, we might suppose that though capable of exciting changes in the parts in which it lies, it would undergo none itself. This, however, is not the case; it is exposed to a variety of metamorphoses, partly owing to the influence of the living tissues, partly to physical changes within itself.

In the first place, the gray may be transformed into the yellow. Although the infiltrated variety undergoes this change, it may be best observed in the discreet granulations, in which the centre first becomes opaque. This, as we shall hereafter see, is precisely what might be expected, the deeper seated parts being the oldest.

Gray tubercles in the lungs are also subject to a peculiar change, in which they lose their lustre, become dry, hard, horny, and shrivel into shapeless masses. This indicates that the substance is no longer susceptible of change.

The yellow and mixed forms may gradually become cretaceous. This, like the previous change, is curative. A mass which is undergoing this transformation becomes more consistent although the cohesion may be less; it is whiter, gritty to the feel, and when pressed between two slips of glass resists much more than before. At a later period, it resembles plaster or lime with which a little water is mingled. Finally, a concretion of stony hardness may be formed, sometimes of considerable size, though rarely larger than a pea.

At the commencement of the change the interglobular substance presents, in addition to the ordinary molecules, mineral particles which are detected rather by their resistance to compression than by any other peculiarities. These particles gradually increase until the substance is occupied by them. In addition to the above, crystals of cholesterine are found, and the dark pigment previously described. This cretaceous change has been most frequently noticed in the lungs and bronchial glands.

Yellow tubercle may also soften. This change may commence in the centre, at the periphery, or in both places at once. In the tubercular matter itself, it is never a vital process, and may take place independently of inflammation or exudation from the surrounding tissues. Though morbid secretions may aid somewhat in the disintegration of tubercle, they are not essential to it. It is a purely physical change, dependent upon the absence of nutrition, and is therefore seen in the deeper-seated or oldest parts of the distinct nodules, even where these are of considerable size. At an early period, the softened portion looks more crumbling than the remainder, and is very easily separated from the firmer part, leaving a little cavity. At a later period it becomes liquid, like pus, with flakes or grumous masses floating in it. These last may be undissolved portions of tubercular matter. But this liquid is not pus, for, into this, tubercle is never transformed. When there is an admixture of pus globules, they must be derived from the adjacent tissues, for these alone possess the vascularity absolutely essential for the formation of a purulent fluid.

Although the friable grumous condition may precede liquefaction, it may exist a long time without the latter taking place, and be followed by the cretaceous change. Under the microscope, a mass which is softening presents different appearances according to the stage at which it is examined. At one period the so-called tubercle corpuscles will be distinctly seen, but they afterwards disappear, and we have nothing but an abundance of molecules, with particles of oily and calcareous matter.

The product thus formed is usually discharged, the surrounding tissues having ulcerated; but it may be retained. In this case the fluid parts are gradually absorbed, while the fatty and calcareous matters increase until it is converted into a dry, friable, mortar-like or hard concretion.

Changes in the adjacent Tissues.—Having considered the changes which take place in the tubercle itself, we will glance at those which affect the tissues in which it lies. Its presence may cause the destruction of the adjacent and included parts, or give rise to the formation of new tissue. The inflammation excited may be followed by the expulsion of the tubercular mass, either before softening has taken place or after. This may be a curative process, but also one attended by danger, and, though all the tubercular matter be expelled, there is a constant tendency to the formation of more in the walls of cavities, and in the basis and borders of ulcers. In the same parts new cellular tissue may also be formed, and this may finally become tubercular. The melanotic condition so often seen probably has its origin in the transformation of hæmatin, and is perhaps preceded by the obliteration of vessels, whose contents afterwards become changed.

Parts affected.—Not only almost every organ and tissue may be the seat of tubercular disease, but new formations, such as cellular tissue in cicatrices, and in the borders and bases of ulcers. Though showing a decided predilection for some organs more than others, its tendency is to invade one part after another, or several simultaneously. This disposition to generalization is particularly marked in infancy.

Notwithstanding the various opinions advanced with regard to the exact seat of tubercle, it seems quite evident that it is deposited particularly in the cellular tissue of organs, among the elements of which they are composed, as between the bronchi and vessels of the lungs, between the nerve-tubes, or between the tubuli or other elements of the secreting organs. It is also seen on the surface of membranes, as in the genito-urinary organs, the bronchial vesicles or minute bronchi.

Frequency in different Organs.—It is impossible to settle summarily the question of frequency in different organs. No single table will suffice. We may, it is true, state absolutely that some organs are particularly exposed to the attacks of this disease, while others are almost exempt. But, with regard to the former, the liability varies at different periods of life and according to the primary or secondary character of the affection. With regard to the latter we may be more absolute, as there are some parts which are scarcely ever affected, such are the salivary glands, the ovaries, the walls of the bloodvessels, the œsophagus and vagina.

The statements of different authors, concerning the relative frequency in organs, do not agree, and being based upon facts, are of course irreconcilable. We shall therefore be justified in adopting the opinion of one like Rokitansky, who has had the largest experience and the best opportunity for judging. According to him, the scale is somewhat as follows: the lungs, the intestinal canal, the lymphatic glands (particularly the jugular, the bronchial and abdominal), the larynx, the serous membranes, pia mater, brain, spleen, kidneys, liver, bones, and periosteum, uterus and tubes, testicles with the prostate and vesiculæ seminales, spinal cord.

In children, on the contrary, the lymphatic glandular system holds the first place with the spleen, afterwards the lungs with the bronchial mucous membrane, then the brain, serous membranes, etc.

In estimating its frequency as a primary or secondary lesion, we arrive

at still different results. Though the lungs and lymphatic glands still hold the same position, the scale in other respects may be entirely changed. Thus, the urinary organs, the female sexual mucous membrane, the bones, the testicles, the prostate and vesiculæ seminales, which stood at the bottom of the list, follow closely the organs first mentioned; while the intestines, larynx, trachea, serous membranes, spleen, and liver, are almost never the primitive seat of the disease.

In addition to the above peculiarities, certain organs are likely to be affected simultaneously, or nearly so.

The disease not only shows a disposition to invade certain organs, but certain parts of those organs, as the apices of the lungs, that portion of the pia mater which lies at the base of the brain, the gray substance of the brain itself, the spongy bones and spongy portions of the long bones, the lower part of the small intestine, the fundus of the uterus, &c. But, in the midst of this almost universality of invasion and destruction we see certain limits to its power. From the larynx, it almost never extends to the pharynx, or from the fundus of the uterus, through the internal orifice.

Incompatible Diseases.—Fortunately, also, there are conditions of the body, with which it seems to be nearly or quite incompatible. These, according to Rokitansky, are—

1. Cancer, which is extremely rare in connection with tubercle.
2. Typhus. (By this is probably meant our typhoid.) This is decidedly exceptional in tubercular individuals.
3. Rickets is not often seen in connection with it, and the combination of the two is especially rare, when deformity has resulted from the disease of the bones, and the chest has become narrow.
4. Derangements arising from mechanical obstruction of the circulation in the heart and lungs. Under this head we may class the following conditions:—

a. Obstructions at the orifices of the heart and consecutive enlargement of the latter.

b. Congenital malformations of the heart and the arterial trunks, such as absence, narrowness, persistence of the thoracic duct.

c. Many acquired anomalies of the arterial trunks, resembling congenital arrests of development, such as those resulting from compression; also dilatations, as aneurism, particularly when in the neighbourhood of the heart.

d. Diminution of the capacity of the thoracic cavity, caused either by a great degree of deviation of the vertebral column, by advanced pregnancy, or by large ovarian cysts.

e. The original small size of the pleural sac and lungs.

f. An enlarged thyroid gland, chronic catarrh, dilatation of the bronchi, or pulmonary emphysema.

There are, of course, other facts which might be alluded to in the general history of tubercle, but it is believed that the above are the most important in connection with the inquiry we are about to make, and more perhaps than we shall use.

Assuming, then, that they represent fairly the present opinion concerning the anatomical characters of the new formation, we have yet to decide upon their relation to, and the real nature of the latter. For this purpose we

must make use of the clinical history of cases as well as of the unaided eye, the microscope and other means, which can throw light upon the physical characters of the affection.

Our inquiry should be directed to three points, within which appear to be comprised the questions which may arise.

1. Is tubercle a "specific exudation poured out under the influence of a special, general pathological state?"

2. Is it a degraded condition of the nutritive material from which the textures are formed, differing from that furnished under ordinary circumstances not in kind but in degree of vitality or capacity for organization?

3. Is it the result of the metamorphosis of elements normal or pathological?

Within the last few years we have met with a variety of cases which seem to throw some light upon the above points. In the greater part of them the statements are mostly confined to the anatomical and microscopical characters, either because the nature of the disease was undoubted and too well understood to render it necessary to give more than its name, or because the clinical history did not appear to have any bearing upon the present investigation.

It will also be noticed that in the microscopic examinations no allusion is made to any of the elements described, except the so-called tubercle-corpuscle. This is the only one about which there is any dispute. The others, certainly, are not peculiar to tubercle, although so frequently found in it.

Cases.—In a large number of cases in which both the gray and yellow varieties were examined microscopically, the so-called tubercle-corpuscle was found. There can, therefore, be no doubt about the existence of this—that it is almost universal in formations which are considered tubercular. But we must look still farther and endeavour to ascertain whether it be not also found elsewhere, and under what circumstances it is wanting.

CASE 1. *Infiltrated tubercle: absence of any peculiar elements.*—In Jan., 1857, a child was examined, who died with well marked tubercular formations in various organs. In the lungs were cavities, yellow caseous matter, and a large amount of grayish-white material. The latter, examined with the microscope, was found to contain *nothing but epithelium cells.* It seemed to be characterized rather by the absence of peculiar elements than by anything else.

CASE 2. *Miliary granulations containing hardly a trace of the peculiar corpuscles.*—In 1852 a case was examined, in which very firm miliary granulations were found in the lungs. One of these proved to be so firm that it was with difficulty subdivided by the dissecting needles. Under the microscope, much cellular tissue was noticed and many epithelium cells; but also a very few suspicious looking bodies, "which resembled in some respects the tubercle-corpuscles."

CASE 3. *Gray granulations containing altered epithelium and tubercle-corpuscles.*—In a person who died of acute phthisis, the lungs were found crowded with gray granulations, softer than those above mentioned. They contained, besides "tubercle-corpuscles," *large cells filled with fat globules and granular matter. These were probably epithelium cells*

which had degenerated. (Fig. 1.) In the apparently healthy intervening portions of lung, the same elements were seen, and also cells in which the nucleus was still visible. The pulmonary tissue was also infiltrated with fat. (Fig. 2.)

Fig. 1.

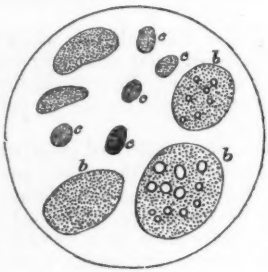


Fig. 2.

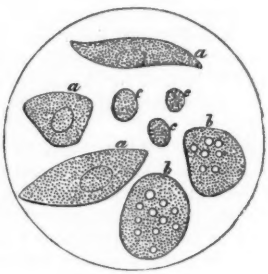
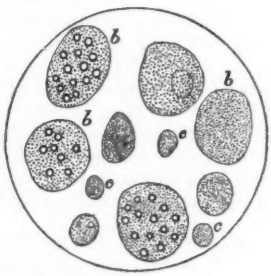


Fig. 3.

Fig. 4.



a. Epithelium. *b.* Degenerated epithelium. *c.* "Tubercle corpuscle."

The above appearances were compared with those presented by yellow caseous material taken from a patient who died of chronic tubercular disease. In this, granular corpuscles of various sizes were seen, but none as large as those spoken of above as epithelium. Many were of the size, and resembled in every respect the "tubercle-corpuscle." (Fig. 3.) In the intervening portion of lung, however, the same large degenerated cells were found as in the other specimens. (Fig. 4.)

CASE 4. *Degeneration of epithelium in connection with tubercular disease of the lungs.*—In a case examined in Dec. 1857, the lungs were found crowded with tubercles. Some parts in which no decided deposit had taken place, had a yellowish tinge, and, under the microscope were seen to contain many large cells filled with minute globules; evidently epithelium undergoing fatty degeneration.

CASE 5. *Same change as in the above.*—In the lungs of a person who died in April, 1858, there was found very extensive tubercular disease, partly in the infiltrated form. On examining the more dense red portions between the deposits and the parts containing the fine tubercular dust, there

were seen many large corpuscles filled with minute globules; others of the same size containing nuclei partially obscured by the contents; and many much smaller, down to the so-called tubercle-corpuscle.

CASE 6. *Same change. Resemblance of the nuclei of the epithelium to the "tubercle-corpuscles."*—In Oct. 1858 a woman died suddenly of pulmonary hemorrhage. In the lungs was a small amount of yellow tubercle and some gray, the latter in the form of an infiltration. In the last were many perfect epithelium cells and some tubercle-corpuscles, but these resembled the nuclei of the first. In some parts which had a yellowish tinge the epithelium cells had become quite granular or had disappeared, while the tubercle-corpuscles were much more abundant.

CASE 7. *Pneumonia: fatty degeneration of the epithelium.*—A man died after being sick a fortnight with the usual symptoms of pneumonia. Nearly the whole of the right lung, from the apex downward, was hepatized, and much of it in the third stage. On examining portions which were still elastic, though probably somewhat diseased, the epithelium cells, or others of the same size, were found opaque, granular, and partially or entirely filled with fat globules. There were also many small opaque corpuscles. In parts which had reached the third stage, there were many pus globules, with here and there a large cell like those above described.

CASE 8. *"Yellow infiltrated tubercle." Fatty degeneration of the epithelium. "Tubercle-corpuscles" resembling the nuclei of the epithelium.*—In Sept. 1858 a man, after exposure to cold, was attacked with cough, dyspnœa, and other thoracic symptoms of a subacute character. For some time he was able to keep about, and several weeks after entered the hospital. The physical signs were such as are usually found in connection with consolidation of the lung. The sputa, however, were not peculiar, and the symptoms never resembled those of ordinary acute pneumonia. He steadily failed, and died four months after the commencement of the disease. At the examination, there was found scattered throughout the left lung, from apex to base, a dull yellow material in the form of small points or large irregular masses, the last evidently resulting from the aggregation of the first. The lower lobe was for the most part occupied by this adventitious product. In the upper lobe was a cavity filled with dirty pus. The other lung was similarly affected, but less extensively. Near the confines of the disease were several reddish, firm portions of small size, resembling the pulmonary tissue in a state of red hepatization. On examining the last with the microscope there were seen epithelium cells, in some of which nuclei were still visible. There were also other cells of the same size filled with minute globules or granules; and mingled with these many others of various sizes down to the "tubercle-corpuscle." The latter resembled in every respect the nuclei of the epithelium.

In the more abundant yellow material at the base of the left lung there were seen the same "tubercle-corpuscles" and the same large cells filled with minute globules, but very little, if any, healthy epithelium. The bronchial glands contained a little caseous or cretaceous matter. In the lower part of the small intestine were a few small ulcers and a little yellow material. The mesenteric glands were enlarged, and contained a yellow tubercular deposit.

CASE 9. *"Yellow infiltrated tubercle." Fatty degeneration of the epithelium.*—A young man, 17 years of age, after wetting his feet, was attacked

with cough and other thoracic symptoms, not sufficiently severe, at first, to confine him to his bed. He raised a little blood several times, and, his health declining, finally entered the hospital, after which the sputa were several times reported as rusty. The symptoms, however, were more those of phthisis than of pneumonia, and the physical signs did not point particularly to the latter. He died after an illness of about ten weeks.

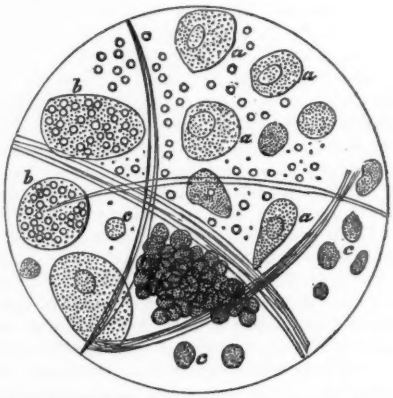
Much of the right lung was occupied by large yellowish-white masses, closely resembling infiltrated tubercle. The other organs were not examined, but there was no reason to suspect disease in any of them. The microscopic characters were, on the whole, the same as those described in previous cases, viz., epithelium more or less degenerated, and corpuscles of various sizes, down to the tubercle-corpuscle.

In connection with the last two cases, it may be well to allude to those published by Dr. Bowditch in the *American Medical Monthly* for July, 1855, entitled—

"*Cases of anomalous development of tubercle, commencing at the base of the lung and gradually extending upwards; with the physical signs of pneumonia.*"—In several which were examined after death the appearances were such as have always been regarded as belonging to tubercle. In one in which the microscope was used the results were as follows:—

"To the naked eye the tubercular deposit was present in three distinct forms: 1st, as isolated, round, yellowish-white granulations, about a line in diameter, and separated from each other by pale red pulmonary substance; 2d, as a yellowish-white, almost diffluent or gelatinous matter, a small quantity of which only was seen; 3d, as a yellowish granular substance, containing but little moisture. This last form was most abundant, occupying, in large irregular masses, the pulmonary tissue. On microscopic examination, the

Fig. 5.



a. Epithelium. *b.* "Inflammation-corpuscles." *c.* "Tubercle-corpuscles."

first two varieties were found to contain essentially the same elements as represented in Fig. 5, viz., epithelium, 'inflammation corpuscles,' and

others of various sizes (the latter unaffected by acetic acid), forming a regular series down to the so-called tubercle-corpuscle. In addition to the well-marked epithelium cell, others were seen in which the nucleus was almost obscured by the minute globules, which entirely filled, and gave the peculiar character to, the 'inflammation corpuscle.'

"The appearances in the third variety are represented in Fig. 6. Here

Fig. 6.

b. "Inflammation-corpuscles." *c.* "Tubercle-corpuscles."

the larger corpuscles had almost entirely disappeared, a few fragments only remaining, while the number of so-called tubercle-corpuscles had much increased. Numerous minute globules and granules were floating about in all the specimens."

CASE 10. *Cancer, containing well-marked "tubercle-corpuscles."*—In a breast removed at the hospital by Dr. Cabot in March, 1859, the appearances were those of ordinary scirrhus, and there were none of the usual signs of degeneration. It was found to be composed of fibroid tissue and corpuscles of various sizes, none very large, and many so small and granular as to resemble precisely, when examined with a high power, the so-called tubercle-corpuscle.

CASE 11. *Cancer presenting the usual appearances of tubercle, attributable to the fatty degeneration of the cells.*—It is so common to find yellow "phymatoid" material in growths unquestionably cancerous, that we do not consider it necessary to cite any single case, but make the general statement that in a large number of instances we have found the change owing to the fatty degeneration of the cells, which may still retain the form of the more healthy ones among which they lie.

CASE 12. *Caries of the spine. Cavities in the bone filled with a yellow caseous substance, which extended downwards along the spine and psoas muscle to the thigh.*—In this case the bodies of the three last lum-

bar vertebræ and the upper half of the sacrum were extensively carious. Deep cavities in the former were filled with a yellow, soft caseous substance like soft tubercle or inspissated pus. Those portions which still retained their usual form were infiltrated with a thick red fluid. A caseous material like that described above filled a cavity between the diseased bones and tissues around, and extended downwards in the substance of each psoas muscle, on the left side as far as Poupart's ligament, and on the right, apparently as low as the thigh. The substance within the muscle was considerably drier than that in the neighbourhood of the bone.

Taking into consideration the disease of the bone and the course pursued by the caseous material, there can be no doubt that the latter was merely inspissated pus, and yet it is precisely like what Nelaton describes as tubercle in connection with tubercular disease of bones.

CASE 13. *A formation apparently tubercular in the diaphragm. Nothing peculiar noticed with the microscope.*—In a patient who died of tubercular disease of various organs, there was also seen beneath the serous membrane covering the diaphragm a yellow deposit resembling those found elsewhere. Unlike them, however, it contained no peculiar corpuscles, but merely irregular masses and small fragments.

CASE 14. *A formation apparently tubercular in a supra-renal capsule. Nothing peculiar noticed with the microscope.*—In the supra-renal capsules of a patient who died without manifesting any decided symptoms except debility, yellow deposits were found resembling very closely yellow tubercle, but, on microscopic examination, nothing was seen but an amorphous mass.

CASE 15. *Disease of the kidney simulatiny tubercle.*—A sacculated kidney, in which the sacculi were evidently dilated calices, was filled with a soft substance like thin mortar, which might be mistaken for tubercle. This, on microscopic examination, proved to be composed of minute globules and irregular granular corpuscles, some like those so commonly found in tubercle, but many much larger. The material was undoubtedly inspissated pus, as there was ulceration of the bladder, and the patient had had urinary symptoms for four or five years.

CASE 16. *Fibroid and fatty degeneration of the placenta, resembling yellow tubercle.*—A case of this kind is reported in the *Transactions* of the Boston Society for Medical Improvement (vol. ii. p. 292). In the substance of the placenta were a number of firm yellowish-white masses, some of which closely resembled tubercle. These were found to be non-vascular, and the villosities, where seen, had a more or less fibroid appearance, and contained granular matter or minute fat globules. This is not an uncommon appearance, and has been described as "tubercular degeneration."

With these cases before us, let us see if we can draw any conclusion concerning the anatomical character of tubercle, or the relation of the latter to other morbid processes.

Examining, in the first place, the appearances which the naked eye can appreciate, can we trust to them as evidence of the nature of the product? Let us first take into consideration the yellow variety, as this is the most common and the one about which there probably prevails the largest amount of error.

We have seen this yellow material mingled with the semi-transparent, also in cases which, judged clinically or anatomically, might leave us in doubt about their pneumonic or tubercular character; in cancer (Case 11); in caries of the spine (Case 12); in the supra-renal capsule (Case 14); in the pelvis of the kidney (Case 15); and in the placenta (Case 16). As far as the unaided eye can teach us, this peculiar appearance belongs to a great variety of products.

On pushing our inquiry still farther with the aid of the microscope, we find that in the lungs the epithelium becomes fatty and is gradually destroyed, that the same change takes place in the cells of cancer and in the villous structure of the placenta; that in the spine and kidney the products of inflammation have evidently undergone a change; that in the supra-renal capsule there is nothing which would indicate the original character of the disease. With nearly the same external characters, these formations present very different appearances when examined with the microscope, *but they have one property in common; they show the most undoubted signs of degeneration.*

But this does not settle the question. Do they not contain, in addition, some elements which will enable us to distinguish one from the other? Now the only one which has been considered at all peculiar to tubercle is the small granular corpuscle. As we have seen, that exists in a large number of cases, but even in those, about the nature of which there could hardly be a dispute, it is found in such a connection that we are led to believe that it is only a shrivelled cell or free nucleus. But its existence in cancer (Case 11), in products evidently inflammatory, etc., furnishes us with still stronger evidence of its non-specific character.

We must, therefore, conclude that this material is simply the result of degeneration, and not necessarily indicative of any special disease.

But the conclusion implies that something existed which could degenerate. Can we not still then find a product, which we may call tubercle, possessing this tendency to decay in common with other new formations. Now, if there be anything anterior to the yellow variety, it is the gray, and to this we necessarily turn.

We have seen that it may be converted into the yellow (in other words, may degenerate), and therefore have reason to believe that some of the elements (such as tubercle corpuscles) found in it belong to the latter (yellow), and they appear to increase as the colour changes and deepens (Cases 1, 2, and 3). In Case 1 the infiltrated gelatinous material contained nothing which could be considered at all characteristic, and the same substance in Case 6 was almost as free from peculiar elements, which were also almost entirely wanting in Case 2.

May we not, therefore, conclude that gray tubercle, at an early period, possesses no anatomical element, which will enable us to distinguish it from other morbid products?

Must we, therefore, deny the existence of such a new formation as tubercle? Not at all. We only deny that it has any special structure.

The peculiarity of the product is *its tendency*, of which we have numerous instances every day. This we cannot understand any more than we can the property of the syphilitic virus, which produces such a variety of changes in the human body. Yet no one doubts its specific power. (This is used merely as an illustration.)

We are certainly left with rather a vague principle with which to work out the great question, the decision of which is the chief object of the essay, and it appears all the more difficult to solve, when we consider that inflammation itself is a very vague and but partially understood process.

Still, accepting the term in its usual sense, we may again refer to our cases.

In No. 7, which was one of genuine pneumonia, the degeneration of the epithelium was quite as marked as in any of those which were decidedly tubercular. Pus corpuscles were also found.

In the next case, No. 8, we have a formation a little older; one which would certainly be called infiltrated tubercle. Here the same degenerated cells were found and others of various sizes, down to the "tubercle-corpuscles," which resembled the nuclei of the epithelium, increasing as before in proportion to the amount of the yellow material.

The cases reported by Dr. Bowditch are very valuable in this connection. Commencing with the physical signs of pneumonia, they pursued a subacute or chronic course until they terminated in death. The lungs, in those examined, were occupied by what were considered well-marked tubercular formations. In the one which was examined microscopically some of the changes noticed were precisely the same as those belonging to acute pneumonia, and the other appearances were such as we might expect to result from the progressive degeneration in the older product.

It appears, therefore, that the relation between the yellow material and inflammation is very intimate; that the so-called tubercle is merely the result of the degeneration of the inflammatory product and the elements of the tissues in which it lies.

Taking this view, we must conclude that the cases reported by Dr. Bowditch, and others resembling them, originated in inflammation.

But it does not follow that products like those described are always preceded by inflammation. The connection between the two, though frequent, is accidental, as we have shown by a number of cases. The great mistake in attempting to decide the question, has been that of basing the conclusions upon the degenerate formation.

The appearances noticed in a number of specimens of pneumonic lungs, examined with the microscope, seem to explain, to a certain extent, how the peculiar change of colour and consistence may take place in inflammation. On examining portions of pulmonary tissue, which appeared to be but slightly affected, and which still retained much of the red colour, we found, contrary to what was to have been expected, according to the description usually given, a decided diminution or absence of red globules, while the tissue was filled with many small granular corpuscles, closely resembling those of pus or the white blood-corpuscles. If the absence of blood continues, and the corpuscles described remain or increase, the pulmonary substance must degenerate and become dry, or soften. In the first case, we should have precisely the appearances seen in what is called yellow infiltrated tubercle, without the acute symptoms which attend the rapid formation of the pus, as in the third stage of pneumonia, when softening takes place.

We have now to discuss the question of the relation between the gray variety of tubercle and inflammation. The inquiry here must necessarily be more or less of a speculative character. We have no anatomical elements to compare, for we have declared our belief that the peculiarity of tubercle

is its tendency. Now it is possible that as exudations are often the result of inflammation, their character may be so influenced by general or local causes that "tubercle" is the consequence, when it might never have been developed under ordinary circumstances. Examining the question clinically, we can come to no more positive decision. Tubercle makes its appearance sometimes with, sometimes without symptoms of inflammation, and, certainly, the recent granulations, in most cases, show no signs of an inflammatory origin: the tissue in their neighbourhood is remarkably healthy. If therefore they generally or often exist without apparent inflammation, the presence of the latter should rather be regarded as a consequence and not a cause.

Although the questions proposed at the commencement of the inquiry have been sufficiently answered, it may be well to briefly state our conclusions here.

It is not a specific exudation. It does not exist, as such, in the blood.

The yellow variety is always the result of metamorphosis—of degeneration.

It is altogether probable that it is owing to a "degraded condition of the nutritive material," which differs from that furnished under ordinary circumstances, "not in kind, but in degree of vitality or capacity for organization."

The descriptions usually given of the anatomical characters of tubercle are for the most part correct, but the real nature of the disease has been almost universally misunderstood, and the term applied to lesions of an entirely different character. All circumstances must be taken into consideration in forming an opinion about such cases.

These results are based upon observations of our own, made before we became aware of the fact that they only confirmed what was announced long ago, and quite well demonstrated too. In 1692 a dissertation was published by Zwilling, "De natura et cura phthiseos." In this he asserts that "Quicquid potest causari pulmonum inflammationem, potest etiam causari phthisin." Many men of note have since taken the same ground; but with the means which they possessed for the investigation of the subject, their views could not be so satisfactorily proved as those of the writers of the present time.

To the last, therefore, we shall appeal for the corroboration of our own statements.

The writings of Rokitansky, Paget, and Wedl, show that gray tubercle may undoubtedly be converted into yellow, though the change is sometimes so rapid, as to give rise to the idea that the formation is originally yellow. Even Lebert admits that when it takes place, the number of "tubercle corpuscles" increases. This metamorphosis, however, is like that seen in the elements of tissues and adventitious growths, which have no connection with gray tubercle. It occurs in such as are composed of nuclei and nucleated cells; in cancer, in the elements of exudations, in pus, and in the material met with in some cases of typhoid fever. Formations in the bones, cellular and adipose tissues have also been mistaken for it.

Paget states that—

"It is common to find in medullary cancers, and, more rarely in others, portions of yellow, half dry, crumbling and cheesy substance, so like tubercle that with the naked eye, they can hardly be distinguished from it. The cancers in which they occur have been described as mixtures of cancerous and tuberculous

matters; but the microscope finds that the tuberculoid, or, as M. Lebert calls it, the phymatoid material in them, consists of cancer corpuscles, withered, with fatty and calcareous degeneration, and mingled with molecular and granular matter. By similar degeneration, material like tubercles may be found in cartilaginous, rudimental, fibro-cellular, and probably other tumours. In all these instances the microscope may usually insure a just diagnosis, and may prove that the tuberculous appearance is only due to a withering and fatty degeneration of materials, that have nothing but their degeneration in common with true tuberculous matter."

Having thus confirmed our former statement, that yellow tubercle is a degenerated product, we may now take into consideration the character of the other variety.

Virchow (*Gesammelte Abhandlungen*, p. 216) states that—

"Young gray tubercles resemble so closely the material which forms the follicles of the cortical layer of the lymphatic glands, that they may be mistaken for it, and, certainly no greater correspondence can be found than that which exists between the follicles of the spleen and the small interparietal tubercles of the bloodvessels of the brain in tubercular arachnitis."

As no mention is made of the microscope, the above remarks probably refer to the appearances of such bodies when examined with the naked eye. If so he might also have alluded to the small fibroid granulations sometimes met with in serous membranes.

With regard to the gray gelatinous material, Reinhardt (*Annalen des Charitê—Krankenhauses.* Berlin, 1850) describes it as a clear, transparent and somewhat viscous fluid, resembling in consistence a moderately concentrated solution of albumen. Under the microscope it appears completely homogeneous and transparent, but sometimes contains epithelium cells enlarged and infiltrated with fat, and also pus-corpuscles from the bronchi.

The gray granulations, he seems to think, are composed of the same material, which may form cellular tissue. This is certainly in opposition to the opinion of Rokitansky, who declares, that if adventitious growths resembling tubercle in external form and original composition show a fibrous structure, they cannot be tubercle.

The view taken by us of the nature of the latter seems to explain these differences sufficiently well. A fluid may exist, apparently homogeneous; but a part of it, however, possesses sufficient vitality to form cellular tissue; the remainder may become what is called tubercle, may present no definite structure, and show a marked tendency to degenerate.

As our conclusions with regard to gray tubercle seem to be also sustained, we will now consider the relation of the new formation to inflammation. As the views of Virchow and Reinhardt include those which have been advanced by other writers, we cannot do better than to give an abstract of them.

We will commence with a description by Reinhardt (*Annalen, etc.*) of a class of cases resembling in a most remarkable manner several reported by us.

"We see in persons previously healthy, and not predisposed to tubercular disease, cases of inflammation of the lungs, which are usually the result of great exposure to the cold. They begin with fever, pain in the side, dyspnœa, the expectoration of bloody sputa, and the physical signs of infiltration of a large portion of a lung. In a word, they resemble those of ordinary acute lobar pneumonia, but differ from the latter in their farther course. After the subsidence of the

fever and other rational symptoms, there is no absorption, no resolution of the exudation; the affected portion of the lung remains impermeable to the air. After the disappearance of the rational symptoms in such cases, the patients may regain their health, although the exudation in the lungs is not absorbed; but more frequently, particularly where the infiltration is very extensive the health is not entirely regained, and the case finally terminates fatally. Such cases have been regarded as chronic pneumonia.

"On examination we find no traces of previous tuberculosis. Where inflammation has been excited anew a short time before death, we find the part most recently affected, voluminous, without air, not granular, and of a whitish-gray colour, perhaps bordering upon red. The infiltrated pulmonary tissue, although its elasticity is diminished, is not as friable as in ordinary pneumonia. On pressure there escapes a clear, transparent, somewhat viscid fluid, resembling in consistence a moderately concentrated solution of albumen. This, under the microscope, appears completely homogeneous and transparent, though it sometimes contains *epithelium cells enlarged and infiltrated with fat*, also pus-corpuscles from the bronchi.

"After the disease has lasted several weeks we find the external surface of the lung either smooth or depressed at certain points. The cut surface is smooth and of a gray colour, and presents a varigated appearance, owing to the existence of two distinct products; one, yellow or yellowish-white, is composed of the enlarged and fatty epithelium cells; the other, which is whitish or grayish-white, results from the increase or thickening of the interstitial tissue. The exudation pressed from the affected part appears somewhat thicker and more opaque than in the earlier stage. With the microscope we recognize the usual forms of *degenerating epithelium*, the cells being enlarged and more or less filled with fat and large protein-granules. A part have smooth outlines and distinct nuclei, while others want the latter and are shrunken. We also have irregular fragments as well as fat and protein-molecules, resulting from the destruction of the above-mentioned elements.

"At a later period the lung may shrink still more and be converted into a solid, gray, or blackish-gray mass, composed of cellular tissue and bloodvessels, and finally, when the vascularity diminishes, be transformed into a firm cicatrix-like substance."

But cases do not always terminate in this way. Spiess (*Pathologische Physiologie*, p. 423) states that "the exudation which has become hard, and more or less dry and shrunken, may undergo further changes, may be decomposed like the original inflammatory products and give rise to materials which may excite inflammation in the organs, perhaps of a slow and destructive kind."

Isolated tubercles Reinhardt thinks are formed in the same way as the more extensive infiltration; the change, however, is confined to limited portions of the lungs.

He speaks also of a form in which the affected part is the seat of gelatinous infiltration and yellow points surrounded by it, the whole having the appearance of tubercular infiltration composed of gray and yellow material. In a case which had lasted three weeks, he found in the midst of the gelatinous substance numerous small yellow points which proved to be pus, and he traced this through various changes down to the yellow tubercle. The pus became thicker and thicker, while the globules lost their regularity of outline and were less affected by reagents. At the same time the nuclei became indistinct and finally disappeared, so that the cell was transformed into a solid homogeneous mass, precisely resembling the so-called tubercle corpuscle.

The above remarks refer to chronic pneumonia, but precisely the same

changes were noticed in cases which would undoubtedly be considered tubercular.

The same transformation of pus into a yellow caseous substance is seen in the liver, testicles, kidneys, &c. In the mucous membranes, tubercle corresponds with dried purulent formations; also, sometimes, with an amorphous diphtheritic exudation. Ulcers result from the separation of the parts thus affected, or they may originate in follicular abscesses, or in the usual manner. The caseous masses, the so-called free tubercle on mucous surfaces, as in the bronchi, the Fallopian tubes, the vas deferens, the vesiculæ seminales, etc., are only thickened purulent secretions of the mucous membrane.

[This last we consider altogether too sweeping a statement. Undoubtedly much and in many cases, the whole of the formations in those parts which are regarded as tubercle, result entirely from changes in the products of inflammation, but it does not follow that they may not originate in some other way.]

The connection between tubercle and inflammation is also seen in the serous membranes. At an early stage of the disease in tuberculous individuals, we find the synovial membrane crowded with blood, swollen, and infiltrated with a serous, gelatinous, or purulent exudation. Sometimes small abscesses are seen in the membrane. The cavity of the joint is filled with a sero-purulent or purulent fluid. We also meet with large masses of fibrin, containing more or less pus. When the inflammation subsides, the pus and amorphous fibrin degenerate and form yellow tubercular matter. These changes may be observed where the inflammation is owing to mechanical causes, such as wounds, fractures, etc. If such a joint be examined some time after the inflammation has subsided, we find the same appearances as in tubercular affection of the part; small granulations in the synovial membrane; the infiltration of the same with yellow caseous material, and finally deposits of a yellow tuberculoid substance in the cavity.

Virchow (*Verhandlungen der Physicalisch-Medicinischen Gesellschaft in Würzburg*, vol. i.), in speaking of what he calls tuberculous inflammation, states that—

"We may in many cases convince ourselves that cellular tissue and tubercle make their appearance on serous membranes, in the same layer, which must be regarded as an exudation, originally consisting of coagulated fibrin. The question now arises whether the tubercle has arisen from this coagulum, that is, from the inflammatory exudation? Rokitansky has assumed that the elements of the two are originally mingled. But nothing of the kind can be demonstrated. It is much more reasonable to suppose, that while one part is transformed into cellular tissue, nuclei and cells form in the other. Then degeneration begins; after a partial fatty metamorphosis the cells decay, leaving behind a granular detritus, in which the nuclei are still, for some time, to be seen as shrunken, irregular, opaque bodies, which finally also decay, and nothing remains but an amorphous granular mass."

This still seems to confirm our own views, whatever the intention of the writer may have been. We have assumed that the marked characteristic of tubercle is its want of vitality. In the exudation above mentioned, a part is converted into cellular tissue. In the remainder, are formed feeble cells, which soon degenerate. At the commencement, the material from which both were formed appeared homogeneous, but a part only would

admit of organization; the remainder made a feeble effort in the same direction and degenerated.

Reinhardt, after insisting thus strongly upon the connection between tubercle and inflammation, asks whether a general disorder, at all events a disease of the nutritious materials, does not lie at the bottom of the contemporaneous appearance in various organs of the tuberculous material? The answer is in the affirmative.

"When we see," he says, "how children of phthisical parents, although brought up with the greatest care, and guarded from injurious external influences, are attacked by tubercular arachnitis, or at a later period, by pulmonary tuberculosis, we cannot possibly doubt the existence of a hereditary general disorder upon which the local affections depend. But, in cases of acquired tuberculosis also we have often an opportunity to see how the local affection is preceded by general derangement, loss of appetite, languor, and debility. In acute tuberculosis this general disorder assumes even the character of typhoid fever. Still farther, the influences under which tuberculosis is developed, such as bad nourishment, impure air, want of exercise, etc., are precisely those which are followed by derangement of nutrition."

Reinhardt throughout is labouring to prove that the relation between tubercular disease and inflammation is a very intimate one, and he *does* prove it. He, however, overlooks one very important point: that they are not necessarily connected. We cannot close this essay more appropriately than by giving a summary of Virchow's views (*Verhandlungen*, etc., vol. ii.), as they include most of the important points upon which we have insisted. They seem, however, to refer particularly to the yellow material.

"1. Tuberculization, the undoubtedly local process by which is formed the product known as tubercle, does not consist in a peculiar specific exudation, *but in a peculiar transformation of the elements of tissues*, which, in 1847, I described in cancer under the name of tuberculoid metamorphosis.

2. The tuberculoid metamorphosis is coördinate with the fatty, waxy, cretaceous and atheromatous change, but not at all with inflammation, dropsy, suppuration, or the formation of cancer. [This is the exact truth; the products of the last processes must undergo fatty or other changes before they resemble tubercle.]

3. The tuberculoid metamorphosis is met with in newly-formed pathological tissues, in the old or physiological, and, lastly, in both at the same time, which is the common and characteristic occurrence. It affects the transitory elements composed of cells, or the permanent fibrous parts.

4. It consists in a cessation of the nutrient and formative processes, or a mortification, necrosis of the elements of tissues, with subsequent peripheric absorption of the fluid parts and the drying of those which are no longer nourished. This necrosis is caused by the accumulation of cell-elements, which compress the vessels of the part. [This last remark is very important in connection with the results of the microscopic examination of a number of cases of pneumonia, mentioned on page 412.]

5. These cells may be either newly formed, or result from an increased formation of the normal elements (epithelium, etc.), or may have an endogenous origin. The processes by which they arise have the characters belonging to simple hypertrophy, suppuration, cancerous or sarcomatous formations, or to the infiltrated products of typhoid fever and glanders.

6. All these processes show a marked local derangement of nutrition, especially altered exudation, and point back accordingly either to inflammation itself or analogous disorders, whether they originate in the irritation caused by local trouble, or are consecutive to constitutional causes, primary alterations of the blood, etc.

7. We have, therefore, an inflammatory, cancerous, typhoid, glanderous, and sarcomatous tuberculization, which are the same as far as the character of the

local process is concerned—that is, the metamorphosis of tissue—but differ more or less in the character of the *whole* process, whether the latter be regarded as attributable to local or general constitutional causes.

8. Tuberculosis is the entire morbid process, which includes the conditions of the local derangement of nutrition, with the changes in the exudation belonging thereto, as well as in the formation and transformation of cells. It finds its constant regular expression in tuberculization.

All tuberculization (tuberculoid metamorphosis) does not originate in tuberculosis. The latter may in its earlier stage (that of exudation, cell-formation) be present even if there be no tubercle. Tuberculosis we consider that morbid process which, when it pursues its usual course, always leads to tuberculization; while we ascribe cancer and sarcoma, which accidentally tuberculize, to an entirely different process, and should never give the name of tubercle to thickened caseous pus.

9. Inasmuch as tubercle arises from the accumulation in the tissues of a great variety of cells, which in the majority of cases are destroyed, *it is entirely without proper characteristic elements.* Of the remains of the cells, the shrivelled nuclei present the most constant external characters; we may therefore retain for these the name tubercle-corpuscle."

We are therefore justified in again asserting that the peculiarity of tubercle is a certain tendency, and any attempt to decide upon its real nature, by appealing to its anatomical characters alone, would be as futile as to predicate upon the external aspect of a number of new-born infants, their future mental, moral, or physical condition. They all contain germs of something good, bad, or indifferent, but time alone can show what their traits are to be. And, if in after years they become the pests of society, we must not trace the fallen condition of them all to original sin, but remember that they have been surrounded by various influences, and that, though reduced to the same low level, their downfall may be owing to various causes.

REVIEWS.

ART. XVI.—*A Practical Treatise on Fractures and Dislocations.* By FRANK HASTINGS HAMILTON, M. D., Professor of Surgery in the University of Buffalo; Surgeon to the Buffalo Hospital of the Sisters of Charity; Consulting Surgeon, &c. &c. Illustrated with two hundred and eighty-nine wood-cuts. Philadelphia: Blanchard & Lea, 1860. 8vo. pp. 757.

THERE is no subject in the whole range of the practice of surgery which is more important, and more likely to interest the practitioner, than that treated of in the excellent work before us. And, although a lamentable want of knowledge and skill in the treatment of these injuries is undoubtedly often manifested, there is no branch of practice which has more fully and frequently exercised and developed the intelligence and tact of American surgeons. The treatment of fractures and dislocations is as well understood and taught in this country, we believe, as in any other; and the advance in the study of the whole subject has, at least, kept pace with European progress in all that is essential of its theory and practice. Under this view the wonder is that a monograph like this of Professor Hamilton's has not long ago appeared.

It is not our intention by these remarks to underrate the difficulties of the task, or to depreciate the great obligation under which the signal ability and industry of the learned author of the present treatise have placed the whole profession. The fact that it is the only complete one of the kind in the English language, and that, since the times of Desault and Boyer, but one of similar extent has appeared in French, must be regarded as significant as to the magnitude of the undertaking; but this does not afford a satisfactory reason for the deficiency which has hitherto existed in the literature of our own and the mother country. Certain it is that a judicious and available digest of the invaluable experience which has been fully and repeatedly recorded in both England and America, as well as on the Continent, in admirable monographs and papers, was greatly needed.

Dr. Hamilton is fortunate in having succeeded in filling the void, so long felt, with what cannot fail to be at once accepted as a model monograph in some respects, and a work of classical authority. Before going further, let us quote a portion of the author's unpretending preface:—

"The English language does not at this moment contain a single complete treatise on Fractures and Dislocations. The two small volumes of Desault, and the one of Boyer, issued near the close of the last century, and translated into English early in this, may perhaps properly enough have been regarded as complete treatises at the time of their publication, but they certainly cannot be so considered now. The several chapters on '*Diseases and Injuries of the Bones*,' contained in the *Leçons Orales* of Dupuytren, translated in 1846, and the *Treatise on Fractures in the Vicinity of Joints, and on Certain Forms of Accidental and Congenital Dislocations*, by Robert Smith, are invaluable monographs, but neither of them claims to be anything more than a collection of occasional and miscellaneous papers. The writings of Amesbury and of Lonsdale relate

only to fractures. Even the justly celebrated quarto of Sir Astley Cooper is no more than what its title plainly declares it to be, *A Treatise on Dislocations and on Fractures of the Joints;* but since the announcement of the present volume, a translation of Malgaigne's great and crowning work on Fractures and Dislocations has been commenced by Dr. Packard, of Philadelphia, and the first volume has been placed in the hands of the American profession. Should the remaining volume be rendered into English, the gap in our literature will be measurably filled.

"Under these circumstances I might have scarcely thought it worth while to continue my labours, already so near their completion, had it not seemed to me that Malgaigne, whose researches have been truly marvellous, had failed in some measure to give a just representation of the observations and improvements which have been made from time to time by my own countrymen.

"The contributions of American surgeons to this department had to be sought chiefly in medical journals, many of which have long been discontinued, and most of which were inaccessible to the great French writer. Even to an American, the labour of exhumation from archives hitherto almost unexplored has not been small; and it is probable that many valuable papers have been overlooked; indeed it is impossible that it should be otherwise.

"I am free to say, also, that I have been encouraged by a hope that my own personal experience, obtained during many years of public and private service, might be of some value to my contemporaries.

"Very little space has been devoted to what is now only historical, except so far as was necessary to correct certain time-consecrated errors, or to confirm and illustrate the practice of the present day; but, by a pretty full report of characteristic examples, selected from more than one thousand cases already published by myself, by copious references to the examples recorded by others, and by a careful exclusion of whatever has not been confirmed by experience or established by dissection, I have endeavored to make this treatise useful both to the student and practical man, and a reliable exponent of the present state of our art upon those subjects of which it treats."

The first of the two grand divisions of the work is devoted, in thirty-five chapters, to fractures; and the second is occupied, in twenty-six chapters, with dislocations. The first seven chapters of the first part treat of general topics, in the following order: 1st. General Division of Fractures; 2d. General Etiology of Fractures; 3d. General Semeiology and Diagnosis; 4th. Repair of Broken Bones; 5th. General Treatment of Fractures; 6th. Delayed Union and Non-Union of Broken Bones; 7th. Bending, Partial Fractures, and Fissures of the Long Bones. The succeeding twenty-eight chapters present us with an extended and elaborate study of the special fractures of all the cartilages and bones of the body, except those of the skull. In part second, the first chapter is occupied with general considerations respecting dislocations, twenty-four chapters are devoted to special dislocations, and chapter twenty-sixth treats of congenital dislocations, these last being very fully considered in seventeen different sections.

Our readers may find themselves already conversant with a large portion of the matter which has been condensed, arranged, and amply illustrated in the first part. It will be seen that the elaborate reports which have been presented in successive years to the American Medical Association, and published in the *Transactions*, as well as other papers of value which have appeared in the *Transactions* of the New York State Medical Society, and in this and other medical journals, have been embodied in his systematic treatise. The reputation acquired by Dr. Hamilton through these various contributions, and the extensive researches which he has been long engaged in on account of his important study of deformities after fracture, have aroused an interest in the resulting volume on fractures and dislocations, which must insure a prompt success to it as a scientific publication. In

fact, the position of the work and of its author is so well established, and many of his views and inferences, as expressed in different chapters, are so familiar to the profession generally, that we may be excused from dwelling on many matters which might otherwise require some notice.

It is scarcely necessary to remark that Dr. H. has brought together in a lucid, compact, and convenient form, a great deal of information which is drawn, not only from an unusually wide range of reading, but a large amount of personal experience and laboriously careful observation. The numerous published cases and authorities, which are faithfully described and cited, and the considerable number of new cases, introduced throughout the volume, would afford invaluable assistance to the student and practitioner, were it only in clinical illustration of the department of practice which they are intended to portray. But the characteristically independent and ingenious comments with which they are accompanied, and the generally clear and full directions as to diagnosis and treatment, which are added by our author, render his book as instructive and reliable in its teaching as it is interesting and authoritative in its narrative and literature. In short, although some of the cases are not altogether satisfactory, and while in some minor details as to dressings it may not always supply the wants of the beginner, there is very little left undone for all the proper purposes of such a work; so that as a guide for students of every class, as a means of reference for all grades of practitioners, and as an index and a model for other writers on its different topics, it must long continue among the best of its class in our language, if not without a superior in any other.

We have been much interested in the introductory chapters, and would recommend them to the particular attention of the young practitioner. He may safely depend upon them as replete with sound doctrine, and as affording many easily comprehended practical precepts and very important guiding principles. The first of these chapters contains a clear and concise account of the different forms of fracture, as divided and defined in accordance with English and American established usage. In these definitions Dr. H. very prudently takes the nomenclature as he found it; and, although he refers to the logical superiority of the French interpretation of the terms simple, compound, and complicated, as designating fractures, he avoids incurring the risk of crippling his phraseology, in a vain effort to substitute the foreign idiom for our own. Chapter II., on the general etiology of fractures, presents several interesting cases of intra-uterine fracture. Chapter III. is very instructive, and especially important to the learner, while it is well worthy of careful study by experienced surgeons. Among other practical hints of moment, we may refer especially to two. In discussing the difficulty and occasional impossibility of producing crepitus, he says:—

"Whatever mere theorists may say to the contrary, and notwithstanding surgeons up to this time have rarely ventured to allude to this subject, the fact is so that we do not usually 'set' broken bones. We do not, even at the first, bring them into complete apposition unless it is as the exception. I speak of bones once completely displaced by overlapping, and these constitute the majority of examples which come under the surgeon's observation." (p. 42.)

On the next page he quotes Malgaigne, to the same effect, in the following words:—

"Second. That overlapping is the most stubborn of all. Here I will add a disagreeable truth, which classical authors have kept too much out of sight,

namely, that it is so stubborn that in an immense majority of cases the efforts of art are unable to overcome it."—*Traité des Fractures et des Luxations*, t. i. p. 102.

There is no greater bugbear among patients, or source of fallacy, vexation, and injustice among surgeons, than this idea of "setting" broken bones; and it is very satisfactory to find it so unceremoniously handled by our author. In thus again fulfilling his well known mission, the reporter on deformities from fractures renders a service to the future members of the profession which has not been without effect upon his older brethren. Few surgeons will demur to his proposition, as broadly stated, but it need not be looked upon as involving any serious reflection on the sufficiency of our art. It simply admits a very natural truth, which ought to be acknowledged by every reasonable person, out of the profession as well as in it, that no one should expect a bone once badly broken to be restored by human intervention to the integrity originally conferred upon it by Almighty power. The true aim is to effect as near an approach to restoration as usefulness and ordinary appearances may require. It is the lack of this usefulness and tolerable contour, only, that constitutes the lameness and deformity which are to be reprobated; and, even here, the nature of the injury, and the attendant circumstances, must alone determine the amount of deviation from the original condition which should be regarded as excusable. The investigations and statements of Dr. Hamilton have already done much towards the removal of the misconception and embarrassment attendant on this question; and it is to be hoped that he may succeed, if such a thing be practicable, in erecting something like a standard which may be generally agreed upon for the protection and satisfaction of all parties who may hereafter be involved, either as plaintiff or defendant, in the miseries of a prosecution for "malpractice."

The next point to which attention may be invited is less novel in its character; but it is still more important in its bearings, since it refers to the mode of examining a fracture, in making out the diagnosis. Our author's advice is so good and so well expressed, that we quote the concluding paragraphs in full. They may be read with advantage by every one, at the same time that they afford a fair idea of his style and mode of teaching.

"I cannot dismiss this subject without calling attention to the necessity of exercising care and gentleness as well as skill in the examination of broken limbs. Nothing, in my opinion, betrays a lack of judgment as well as of common humanity on the part of the surgeon, so much as a rude and reckless handling of a limb already pricked and goaded into spasms by the sharp points of a broken bone. It is not enough to say that such rough manipulation is generally unnecessary, it is positively mischievous, provoking the muscles to more violent contractions; increasing the displacement which already exists, and not unfrequently producing a complete separation of impacted, denticulated, transverse, or partial fractures, which can never afterwards be wholly remedied; augmenting the pain and inflammation, and not unfrequently, I have no doubt, determining the occurrence of suppuration, gangrene, and death.

"In proceeding to establish the diagnosis in any case, the surgeon should sit down quietly and patiently by the sufferer, so as to inspire in him from the first a confidence that he is not to be hurt, at least unnecessarily. He ought then to inquire of him minutely as to all the circumstances immediately relating to the accident, in order that he may determine as nearly as possible its cause, which alone, to the experienced surgeon, often affords presumptive, if not conclusive evidence as to the nature and precise point of the injury. From this, he should proceed to examine the disabled limb; removing the clothes with the utmost care by cutting them away rather than by pulling; and, when completely ex-

posed, he should notice with his eye its position, its contour, the points of abrasion, discoloration, or of swelling; and not until he has exhausted all these sources of information, ought the surgeon to resort to the harsher means of touch and manipulation. Nor will his sensations guide him to the point of fracture by any other method so accurately as when, the patient being composed and his muscles at rest, he moves his fingers lightly along the surface of the limb, pressing here and there a little more firmly, according as a trifling indentation or elevation may lead him to suspect this or that to be the point of fracture. If the skin is more than usually tender, a few drops of sweet oil or of fresh lard laid upon its surface, or even moistening the skin with tepid water, will render this examination less painful, whilst it will facilitate the diagnosis, by rendering the tactile sensation somewhat more acute.

"The limb, in case of a supposed fracture of a long bone, may now be measured with a tape line, and compared with the opposite limb, having first marked with a soft pencil or with ink the several points from which the measurements are to be made.

"Finally, if any doubt remains, the limb must be firmly but steadily held while the necessary manipulations are performed, for the purpose of ascertaining the existence of mobility and of crepitus. Mobility is most easily determined by giving to the limb a lateral motion, but in general, crepitus is most effectually developed by gentle rotation. If the place of fracture is already pretty well declared by the previous examinations, the surgeon should place one finger over the suspected point, during this manipulation, by which means the crepitus will be more certainly recognized.

"I do not often find it necessary to resort to anæsthetics for the purpose of insuring quietude and annihilating pain in making these examinations, since it is seldom that the patient need to be much disturbed; but if the examination is not satisfactory, and the diagnosis is important, I do not hesitate to render the patient completely insensible, after which the questions in doubt may be more thoroughly investigated and perhaps definitively settled.

"It is scarcely necessary to say that the earlier the examination is entered upon, the more readily will the diagnosis be made out; and if, unfortunately, some time has unfortunately elapsed before the patient is seen by the surgeon, and much swelling has taken place, the examination is still not to be omitted, and whatever doubts remain we must endeavour to remove by repeated examinations made from day to day until the subsidence of the tumefaction has brought the surfaces of the bone again within the reach of our observation." (pp. 43–4.)

Chapter IV., on the repair of broken bones, is highly interesting also, although Dr. H. does not profess to enter into a very full consideration of the process. There is, nevertheless, much characteristic and positive knowledge afforded in his discussion of the practical relations of the subject, and as complete and satisfactory an exposition as need be looked for, of what we really know in relation to a question which appears to have been overloaded with a very troublesome amount of speculation. As our author's views on these subjects are already well known, it is unnecessary to dwell upon them here. Instead of quoting the six different paragraphs in which he describes at length as many different modes of union, we give his summary in the following words:—

"In short, we conclude that fractures of adult human bones, whether placed end to end or overlapped, unite most naturally and most promptly either immediately or mediately, and in the same manner that soft tissues unite; that is to say, without the interposition of any reparative material, or through the medium of an intermediate, permanent callus; and that all deviations from these simple methods are accidental, or the result of disturbing influences." (p. 49.)

The old-fashioned notions about provisional callus, which our author, to some extent, in common with Paget, was instrumental in overturning, are treated, as might be expected, with very little consideration.

"Provisional callus is just as much the necessary result of natural laws as is definitive. It is formed because in that condition of the parts and of the general life its formation was inevitable. Whether useful for the purposes of repair or not, it will under certain circumstances exist. In the repair of certain fractures, provisional callus, it is conceded, seldom occurs." (p. 49.)

Dr. H. exposes the absurdity of regarding that as a "provisional" effort of nature, which is found in action so often where it is not actually needed, and yet does not occur in the cases of the patella, olecranon, and other similar bones, where such provisional arrangement would seem to be especially desirable. Provisional or temporary callus, therefore, "has no final purpose, but is the unavoidable result of certain abnormal conditions," which he specifies as a greater or less amount of irritation occurring in vascular soft parts, which, being susceptible of irritation, are consequently involved in it. He is not so certain as to fractures occurring in children, the observations not having been sufficiently numerous to determine absolutely the laws of repair at this age. He is inclined, however, so far as he may be justified by a few examinations, in the repair of young bone, to accept, with but little qualification, the doctrine of Dupuytren.

The succeeding three chapters are among the best in the book. Chapter V., on the general treatment of fractures, is, of course, the most interesting and instructive, as it is the most important. We need not say that it evinces a large share of judgment and experience, as well as practical skill and ingenuity. The care, precision, and fulness of detail, and clearness and simplicity of language with which its topics are generally discussed and the various practical rules laid down, are well calculated to increase our confidence in the subsequent portions of the volume. We are much pleased with many of his ideas, and have no hesitation in accepting his counsels as reliable throughout. Although liberal towards opposing views, he is none the less decided in delivering his own, wherever really important, at the same time that he is abundantly conservative.

Something more, perhaps, as has been already intimated, might have been occasionally said in regard to the mode of manipulating and to the application of rollers, splints, and other appliances, although such elementary instruction belongs rather to the works on bandaging and minor surgery. Our author seems to expect the necessary tact to have been already acquired by his readers; and hence merely alludes to the indispensable qualifications of a dresser, without dwelling on the mode and course of training by which these qualifications may at least be very much improved, if they cannot be developed. It may here be remarked that the same tendency to take a certain amount of practical knowledge for granted in the reader is observable in some of the descriptions of the modes of dressing special fractures. Greater particularity may not have been compatible with the author's plan, and a natural desire to limit the size of his volume; but, while inclined to yield to his better judgment, our desire is, nevertheless, to put in a plea for the benefit of the untrained practitioner, since, with very little direction, in addition to what the author gives, even the tyro might be enabled to dispense with the otherwise necessary assistance of less desirable preliminary teachers.

A few of the points which have attracted our attention in this chapter may be briefly noticed. After cautions in regard to the handling of the broken limb, Dr. H. lays down the rule, as, with certain explanations, one rarely to be departed from, to restore the displaced fragments to their nearest practicable apposition as soon as possible after the occurrence of the injury. Excellent reasons are given for avoiding the questionable

practice of waiting blindly for the subsidence of the often trifling irritation and inflammation before the coaptation is attempted. He justly considers it important to effect the reduction and comparative repose of the broken limb, in time to anticipate, and, in some degree, prevent, the inflammatory action; but he does not pretend to advocate a resort to the violence which would be inevitable in an attempt at complete reduction after the injured parts had become seriously excited, under the prolonged irritation of the displaced and unsupported fragments. Nor does he urge the application of the dressings, except for mere support, so long as this unfortunate state of things continues. In this he only obeys the rational precept of Hippocrates, and adopts the practice of most hospital surgeons, including Malgaigne, whose refinements on the subject do not seem to please him. The use of anæsthetics, in some cases, gives the practitioner of the present day a material advantage over his predecessors in the reduction and proper dressing, as well as in arriving at a diagnosis in fractures. We are glad, also, to find that Dr. H. does not approve of the employment, except in rare instances and for especial purposes, of any kind of bandages next to the skin. In objecting to the resort to roller dressings under the splints, as often injurious and generally useless for any purpose not attainable in the adjustment of the splints, he justly regards the former as more dangerous than the latter. A careful and experienced surgeon may sometimes do better for some fractured limbs with the primary bandage than without it; but most young surgeons would act more wisely in following Dr. Hamilton's precepts.

The various materials for splints are mentioned, with comparative appreciation of each kind. Of these Dr. H. prefers plain straight strips of wood, carefully padded with cotton batting, and the gutta-percha. He does not fancy metallic splints, except the wire gauze as improved by Dr. Bauer; nor is he an admirer of the many sophistications and delusions in the shape of patent carved splints and beautifully jointed apparatus. Pasteboard, binders' board, leather, bark, felt stiffened with shellac, and even old hat in an emergency, are approved of as often useful. He prefers the gutta percha as more available, on account of its malleability in the warm state and stiffness in the cold, and gives special directions for its use and mode of application. The immovable apparatus of dextrine, starch, and other similar materials, is fully described, and the different kinds compared. He approves, occasionally, of using the starch bandage, after Suetin's movable-immovable mode—which is to cut the casing open so as to admit of inspection of the limb and readjustment of the fragments—but he objects decidedly to any use of this form of dressing in the early stage of the treatment, and gives the usual reasons for the rejection. In most of the views above alluded to we entirely concur. We prefer a kind of agglutinated bandage, however, which he does not describe. It may be made, as employed by some French surgeons, of the calcined plaster in powder, mixed with warm starch mucilage at the moment of application, and well laid on with a brush; but a still more convenient and efficient method is to mix calcined plaster with pulverized gum Arabic, in the proportion of one part in bulk of the latter to about twelve parts of the former. This last-named compound is to be made into a liquid paste with a small quantity of water, and quickly laid on with a large varnish-brush, in the usual manner, before it has had time to set. It is sufficiently elastic, smooth, firm, light, dries promptly, is easily cut, and having a polished surface, is readily kept clean.

Chapter V. ends with a few paragraphs in relation to compound fractures. His remarks on the subject are excellent, so far as they go; but it is

to be regretted that he did not devote a separate and entire chapter, instead of two or three pages, in different places, to the consideration of this often most embarrassing form of double injury. There is so much to be said, and yet so little, generally, to be found on this topic, that we are surprised that Dr. Hamilton did not seize the opportunity to fill a blank which the young practitioner meets in nearly every work on surgery.

Chapter VI. is a well-arranged and comprehensive dissertation on retarded union and ununited fracture. A very complete sketch of the subject, together with a copious array of references and a summary of indications for the treatment, is presented in this chapter, for much of which the author acknowledges his obligation to the well-known and often-quoted monograph of Dr. G. W. Norris, published in this journal in 1842.

The seventh and last chapter of the introductory series is an instructive essay on bending, partial fractures, and fissures of the long bones, in which are given the result of a good deal of original investigation, experimental as well as clinical, in addition to a full share of critical inquiry. As this article has already been published and very generally noticed, it is unnecessary to dwell upon it here, except to say that the author agrees with Malgaigne in doubting the reality, as at least not demonstrated by dissection, of permanent bending of bone without more or less partial fracture of the sub-periosteal fibres.

A disproportionate share of attention has perhaps been given in the foregoing paragraphs to the preliminary portion of Dr. Hamilton's work. It is certainly an interesting one, however, and must necessarily have a material influence in determining an estimate of the value of the treatise. Our confidence in the accuracy and usefulness of the subsequent special applications of the principles announced in the early chapters, is fully justified by the soundness of those principles, as well as by the manner in which they are set forth. We cannot undertake the task of discussing many of the points which we have noted in looking through the very interesting chapters on the different fractures and luxations. They can be fairly comprehended only through a careful study in the pages of the book itself; and we take pleasure in recommending such a study to every member of the profession who may be exposed to the grave responsibility of treating the always distressing and too often seriously compromising injuries which are therein forcibly, carefully, and concisely explained and their proper treatment, under all probable contingencies, pointed out.

The chapters on fractures of the jaw, of the vertebræ, and of the clavicle, among those of the smaller bones, have especially interested us; and it is gratifying to find that the labours and progress of our countrymen are exhibited and discussed with much industry and candour, as well as independence of practical appreciation.

With regard to fractures of the vertebræ, whether of the bodies or processes, Dr. H. decidedly objects to operative procedures of all kinds, and recommends a palliative treatment, which we agree with him in regarding as the only safe one; nor does he neglect to remind us that very important assistance and alleviation may be afforded by the surgeon.

Under the head of prognosis of fractures of the ribs, he rather surprises us with the remark that "death occurs sooner or later in a pretty large proportion of the cases in which the ribs have been broken." This statement is not in accordance with our own impression derived from reading and a considerable amount of public and private experience. Some statistical evidence in support of such a proposition is surely needed. Certain complications of fractured ribs are obviously very serious, but it is

hard to believe that one of the most common forms of fracture is so often dangerous in the extent of violence produced; and there is reason to suspect that even the proportion of bad complications, which would seem to be referred to, is somewhat overrated by our author. There is little doubt, at all events, that simple fracture of the ribs ought not to be subjected to this alarming imputation without a decided qualification as to the danger being due to the mischief done, at the same moment, to the viscera of the chest, or to other parts. In the treatment of fracture of the ribs, Dr. Hamilton prefers the band or broad roller to the more recently devised expedient of semicircular adhesive strips. He objects to the latter as too liable to become loosened, after a few hours, by the slight but uninterrupted play of the ribs. We regret this, because we are satisfied that he is in error. There is no comparison between the comfort of the adhesive plaster dressing, carefully applied on the affected side, and that of the old-fashioned circular bandage; nor is the latter by any means equal to the former in permanence, if it be in actual efficiency. We have so often seen the superiority, for all essentially practical purposes, of the plaster over flannel or muslin, that we should insist upon its trial in all cases, and especially in the complicated forms. The circular adhesive bands are less apt to slip, or to yield, than the circular bandage; and hence their application around the chest may be desirable sometimes instead of the semicircular strips, which are applied only to the injured side. This latter plan, however, is vastly more comfortable and very often all-sufficient, as it does not require as much attention as either of the other bandages, and can almost always be applied so as visibly to check the action of the ribs under it, while the movement on the other side is very little altered. The plaster dressing has long been known to be almost equally efficient, when properly applied, in the treatment of fractured clavicle, being assuredly less likely to slip, except perhaps in very warm weather, than ordinary muslin or flannel rollers; but it is disagreeable to the patient, and troublesome to the surgeon; and this disadvantage is not only greater than in the application to the chest, but it is not compensated for by an adequate increase of comfort and security in the retention of the parts concerned.

Whatever the kind of retentive means employed, the patient ought to be confined to his bed during the early portion of the course of treatment for fracture of the ribs. This rule must necessarily vary according to circumstances, but should admit of very few exceptions for the first few days, and is imperative where no bandage can be borne. The advantage of the supine position—with only a large, well-stuffed pillow, too—is very striking in the treatment of fractured clavicle, and in none more so than in displacements of the fragments of this bone which are otherwise unmanageable. We have seen this demonstrated often enough to have acquired more faith in the simple method of Hippocrates than in the best of the modern contrivances, whether the patient be young or old, and especially if young, notwithstanding the well-known difficulty in confining these two classes to their beds. Dr. Hamilton reminds us that the treatment by the recumbent position, with or without a pad or small pillow between the shoulders, and with or without a bandage or other supports for the arm, is, and has been a favourite one with many surgeons on both sides of the Atlantic and the British channel. We prefer combining the occasional use of Fox's apparatus, as a *placebo* no less than an additional support, with position on the back, in most of the easy and all of the bad cases. It is probable that the importance of bodily repose in every case of fracture, during the inflammatory stage, is not sufficiently attended to. In short there is not a fracture in

any part of the frame in which the patient would not be safer in bed than out of it, and a material gainer by the additional restraint, for at least a week after the reception of the injury, and in many cases for a longer period.

The views of Dr. Hamilton in regard to the rarity of cures, without more or less displacement, of certain fractures of the clavicle, are well known and doubtless very generally agreed to. His chapter on this variety of broken bone is able and interesting, replete with learning and yet eminently practical. The author fully sustains his position as to the persistence of a certain amount of deformity after these fractures, and gives a very instructive history of the various theories and modes of treatment advocated from the time of the father of medicine and surgery to the present day. He presents two cases, in conclusion, which incline him to the belief, along with many surgeons of experience, and in which we fully coincide, that the recumbent posture on the back may secure as good a result, in many cases, as any form of apparatus.

He describes and represents an apparatus of his own, however, which is a modification of that of Dr. Fox, and would seem to be perhaps rather more efficient, and therefore an improvement; although it is scarcely equal to the convenient and complete contrivance of Dr. R. J. Levis, which he does not even mention. The deviations in Dr. Hamilton's dressing from the arrangements of Fox's apparatus, which we have seen employed in the Pennsylvania Hospital, and have resorted to ourselves, are scarcely sufficient to distinguish it as anything more than one of the numerous variations, like the neat and ingenious one of Dr. Levis just alluded to, of the ordinary form. The excellence of the typical apparatus, as contrived by Drs. Washington and Fox some thirty years ago, in the Pennsylvania Hospital, and first described by Dr. Geo. Fox (*Philad. Med. Exam.*, March, 1838, p. 108), is admitted by our author. He refers also to a very similar combination of sling, pad, and ring, which has been at least as long in common use in England, and which is probably the apparatus designated by Mr. H. T. Chapman (*Atlas of Surgical Apparatus*, London, 1832, pl. viii.); but he very properly, as we think, refuses to allow, what it would be difficult to prove in any fracture apparatus, that this dressing completely answers all the indications in a majority of cases. A needless amount of space, however, is expended by our author on the discussion of its merits, as claimed to be established in the use of it at the Pennsylvania Hospital. The apparent difference of opinion as to the curability of fractures of the clavicle, which seems to have exercised him, was one of words more than of actual doctrine, since the extravagant expressions in the works of Drs. Smith and Sargent were too vague and sweeping to justify the amount of importance awarded to them in the present volume. In the course of the last twenty years, we have seen repeated instances of more or less deformity, as well as others in which there was no perceptible displacement left, after fracture of the clavicle in cases treated at the Pennsylvania Hospital. We have witnessed them in private practice also, after the careful employment of the sling and pad of Fox. For years past we have been in the habit of altering and adding to the apparatus, according to the requirements of individual cases; and never have regarded it as either perfect in its operation or stereotyped in form and character. And yet, with the ordinary qualifications, in speaking of the dressing of a notoriously unmanageable form of fracture, it was surely fair enough to say that "the chief indications in the treatment of fracture of the clavicle are perfectly fulfilled by the use of this apparatus." All that can be—and, probably, is—claimed for it is, that, in

skilful and attentive hands, it accomplishes as much as any other mere apparatus; while it is more available, because more easily constructed, more easily watched and readjusted, and less irksome to the patient.

No public hospital should be held responsible for particular forms of apparatus or modes of treatment, without a precise and formal recognition of that responsibility by the surgical authorities of the institution interested. And we would be sorry to believe that the hospitals of the country were not all of them sufficiently progressive in their operations to admit of the continual resort not only to minor adaptations of old means and appliances, but to entire changes, when properly suggested. This has been the custom in the Pennsylvania Hospital; and it will doubtless continue, with respect to fractures of the clavicle as to other lesions. Indeed, we happen to know that in the course of the last few years six different kinds of dressings have been tried in fractured clavicle alone in that hospital, some of these having been repeatedly employed. Under this impression we regret to see it stated, in a work of such authority as this, that since the introduction, in 1828, of Fox's Apparatus into the Pennsylvania Hospital, "no other has ever been used in that institution for the treatment of broken clavicles." (p. 199.)

Fractures of the extremities, as might well be expected in such a work, are very thoroughly and honestly discussed, and at the same time illustrated with many interesting cases, and numerous engravings. No one can study our author's very able and elaborate exhibition of the history, diagnosis, prognosis, pathology, and treatment of fractures in the shafts and joints of these all-important locomotive organs, without acquiring a greatly increased confidence in the various resources of our art, as well as a much higher estimate of the enlightening influence of true science upon a branch of practice which is too often regarded as the province of the empiric and the mechanician. We have read his chapters on fractures of the arm, shoulder and elbow, the forearm and wrist, the hip-joint, the thigh, knee, the leg, and the ankle, with great interest and care, and have noted many views and facts as entitled to particular attention. We are, however, obliged to forego the satisfaction of remarking upon these and of venturing to express some difference of opinion in relation to a few of them; and are forced to confine our notice to a very cursory view of the remainder of the volume, notwithstanding the paramount importance of the topics. We regret this the less, however, because the work is of so much intrinsic value that we are sure it will be in the hands of every American surgeon.

Passing over, therefore, for want of opportunity to discuss their many interesting and frequently novel points, fractures of the scapula, fractures about the head and neck of the humerus, oblique fractures of the humeral shaft, the embarrassing and too often permanently mischievous fractures of its condyles and of the articular heads and apophyses of the adjoining bones of the forearm; passing over, too, the fractures of the forearm, and especially the fractures of the radius in its lower third, including the vexatious and still disputed complications with the carpal joint, we can merely stop to invite attention to a few of the valuable hints afforded by our anthor.

Among these may be mentioned very useful tabular arrangements of the symptoms or differential diagnosis of fractures and other injuries about the shoulder and elbow-joints respectively. These tables present precise, full, and comprehensive exhibitions of these difficult questions, in so clear and methodical a manner as to bring the diagnosis in all ordinary cases within the reach of every intelligent surgeon. The remarks on the displacements in oblique fractures of the humeral shaft, the author's plan of overcoming them, and the

difficulty, not to say impossibility, of maintaining permanent extension, in such cases, are also highly interesting. Still more so are the observations in regard to the dangers and causes of anchylosis and deformity of the elbow and wrist-joints; the importance of early resort to passive motion; the cautions in respect to the conduct of this exercise; the danger of sloughing in certain displacements; the impropriety of graduated compresses in the management of fractures of the forearm; the advantages of Lonsdale's supine position in the treatment of these fractures; the treatment of the fractures of the carpal extremity of the radius, in which are discussed the comparative value of the different plans of Barton, Bond, the author, and others, in this country, and of numerous British and continental surgeons.

Leaving the upper extremities, the fractures of the pelvis will be found to be fully considered; and the succeeding chapter (XXVIII.) presents an admirable and most instructive monograph on fractures of the femur. This important injury is here faithfully and minutely studied in all of its varied and difficult aspects. There is probably not so complete and comprehensive, practical and theoretical survey of the whole subject in the English language, and we doubt whether there is any in existence. It is well worth an analysis by itself, and would stamp the character of the book as one of high authority, even if it stood alone in its peculiar merits. By this we must not be understood, however, as subscribing to all of its doctrines, since some of its positions must be regarded as open to discussion. A few matters only can be glanced at, which ought not to be passed by in silence. In the first place, it may be said that, after as fair, full, and close an examination of all the evidence within his reach, and an impartial summing up of the testimony upon the interesting but difficult subject of union within the capsule, Dr. Hamilton arrives at the safe conclusion that "in it all we think we see enough to warrant a belief that under certain favourable circumstances bony union may occur, but not enough to establish it beyond all doubt." So far he is in the position assumed by Sir Astley Cooper fifty years ago, and as we firmly believe, never since successfully confuted. He goes beyond Sir Astley, however, in expressing his scepticism as to every specimen of bony union which he has yet examined. He is entitled to all the benefit of the very reasonable doubt which he so frankly expresses; especially as he does all that he could do for his patients, by giving them the same benefit in making an attempt, by proper treatment, to bring about the consummation which he so slightly expects. The great advantage of treatment, when it can be tolerated, in addition to the approximative union to be hoped for, is, as he intimates, due to the possibility of the existence of an extra-capsular instead of an intra-capsular fracture. We would prefer the careful employment of a modified Hartshorne's splint, one of Gilbert's, the usual Physick and Desault, or Haynes Walton's modification of Liston's splint, with a particular arrangement of extending and counter-extending bands, to the Hagedorn apparatus of Gibson, or the bed of Daniel, which are recommended by Dr. Hamilton. The latter of these two is expensive and insufficient, and the former is not more available, while it is more complicated, and, according to common experience, much more disagreeable to the patient than either of the single long splints just enumerated.

The next point to be referred to is the prognosis, as to overlapping and shortening, in oblique fractures of the femur. The frequent, if not invariable, occurrence of shortening after these fractures, which Dr. Hamilton has demonstrated in his "deformity" reports, has reopened an old question, which has been very considerably discussed since general attention was

attracted to it by our author. It does not appear to us that his statements and those of the authors quoted have yet been formally controverted, or that they can be, so far as the mere question of fractions of an inch is concerned, until a much larger number of cases have been recorded for the especial purpose of testing his conclusions. Nor do we think that even then the negative position can have a much better basis than it has at present, which is one of mere opinion, unless some mode of measuring can be established which will meet with general approbation. We are satisfied, however, that, within certain limits which are not easily defined, the result depends more upon the amount of vigilance and good management of the surgeon in each individual case than is made to appear by Dr. Hamilton, or than can be attributed to the nature of the injury or to the particular kind of apparatus used.

It is to be regretted that he has not expressed this idea of relative recovery, at least in such a manner as to protect himself more certainly against being misunderstood by careless readers; since, in the very laudable desire to establish the actual frequency of what he terms deformity, he runs, we fear, the risk of affording mischievous aid and comfort to incompetent pretenders, and a corresponding amount of injurious discouragement to skilful practitioners. The question is not so much one of the difference in fractions of an inch between the dimensions of the reunited fragments of a broken bone and of its uninjured fellow, as it is a question of perceptible disparity between them in shape and function. Notwithstanding the difference of opinion among high authorities as to the effect of a few lines or centimetres of shortening, we should care little about the loss of half an inch in length, or the gain of an inch or two in thickness, provided the patient could walk without a limp, and had escaped without an evidently crooked limb. Arithmetical investigations, supposing the accuracy of measurement to equal the precision of the record of it, are doubtless very useful as perhaps the only unequivocal means of describing a series of definite results; but until the pathological significance of these merely mechanical data in fractures has been positively ascertained by a long series of comparisons with the corresponding amount of impairment of form and function, and by a still longer series of comparisons between the lengths of unbroken limbs, we are not inclined to admit the argument afforded by them as conclusive against the authority of ordinary observation for a more favourable opinion than that expressed by Dr. Hamilton. The extent of permanent damage resulting to a broken limb is surely not much to be regretted, when it requires an examination with the square and rule for its detection.

We have not been able to find any precise directions given by Dr. H. as to the proper mode of measuring, and are therefore somewhat at a loss in regard to his practice in this important matter. He appears, however, to use the tape altogether, since no mention is made of Mayor's dividers or of any other instrument, and the "fixed points" selected are the anterior-superior spinous process of the ilium above, as usual, and the "internal condyle or the malleolus internus" below. (p. 385.) Now unless the numerous measurements appealed to by Dr. H. as confirming his theory of invariable shortening were made with the malleolus internus as the lower fixed point, we should not be disposed to accept them as entitled to attention. If this exception be not in accordance with Dr. H.'s own views, which we can hardly believe, it is certainly sustained by good authority; and at all events it has sufficient force to damage seriously the statistics which may be based upon that mode of measurement. Without taking the time to discuss the comparative value of the malleolus and the internal condyle as recognizable "fixed"

points, we shall take for granted that the malleolus was the point selected in all cases by Dr. H. Even then, however, we are not released from doubt, since this only part which is really available as a point, is sometimes not fixed enough to enable the most experienced and expert surgeons to agree upon a measurement, or even to arrive at the same measurement themselves in successive attempts on the same limb. We have known this to be the case with anatomists and hospital surgeons who have been measuring for more than thirty years, and are as well able to arrive at a result as any operator in the world. We have no faith in the minute accuracy of the tape measure, and not much more in that of the dividers. We prefer a wooden or metallic graduated rule, long enough to reach from head to foot, and furnished with sliding cross-pieces, also graduated, like the gauger's measure; but we doubt even this for some cases, on account of the difficulty as to points. But, admitting our certainty of measurement, how are we to be sure that our patients, or some of the other patients measured, were originally symmetrical? We may here present an imaginary difficulty, but insist upon it, nevertheless, until the fact of constant equality of length between the right and left limbs has been established. We are not prepared with positive data as to the amount and frequency of deviations in what are supposed to be healthy frames, *especially in males*, although from the ease with which left-handed persons are recognized by the glovemaker and the shoemaker, and from our knowledge of frequent inequalities in the chest and other parts, we have some very reasonable suspicions on the subject. There is no doubt, however, as to the not uncommon occurrence of inequality from disease, under circumstances, too, which would be likely to mislead attention unless it were suspected. We remember a curious instance of this at the Pennsylvania Hospital recently, in which the sound limb was found to be elongated by a thickened acetabulum. We have heard also of limbs being actually lengthened under treatment for fracture; and, of course, have met with limbs recently fractured on one side, and shortened from old fracture on the other.

In short, although the good effects of treatment in oblique fracture of the femur have undoubtedly been exaggerated, in the desire to vaunt the different forms of apparatus, we see no good reason for denying the fact that immunity may occur sometimes, notwithstanding the average result of the author's 115 observations, and the positive assertion of Malgaigne and others. Whatever value may be attached to the positive view of the question, the many interests involved are sufficiently important to justify the quotation of our author's negative conclusions in his own words:—

"By a reference to my 'Report on Deformities after Fractures' it will be seen that the average shortening in fractures of the upper third of the femur, in the cases examined by me, was about four-fifths of an inch; in the lower third it was a fraction over three-quarters, and in the middle third a fraction less than three-quarters, of an inch; and the average of the whole number was almost exactly three-quarters of an inch (three-quarters and $\frac{1}{77}$). These analyses were made upon simple fractures, and were exclusive of those in which no shortening at all occurred. An analysis which included also those which had not shortened, reduced the average shortening to half an inch and about one-tenth.

"An examination of cabinet specimens does not present a result so favourable even as this. Of nineteen fractures of the shaft of the femur contained in Dr. Mütter's cabinet, not one seems to have been shortened less than one inch. Specimen B 63, a fracture of the middle third, is united with a shortening of two inches and a quarter; and specimen B 130, imperfectly united after a fracture through the middle third, is overlapped three and a half or four inches.

"In conclusion, I wish to say, briefly, that, in view of all the testimony which is now before me, I am convinced—

"1. That in the case of an oblique fracture of the shaft of the femur occurring in an adult, whose muscles are not paralyzed, but which offer the ordinary resistance to extension and counter-extension, and where the ends of the broken bone have once been completely displaced, no means have yet been devised by which an overlapping and consequent shortening of the bone can be prevented.

"2. That in similar fracture occurring in children, or in persons under fifteen or eighteen years of age, the bone may sometimes be made to unite with so little shortening that it cannot be detected by measurement; but whether in such cases there is in fact no shortening, since with children especially it is exceedingly difficult to measure very accurately, I cannot say.

"3. That in transverse fractures, or oblique and denticulated, occurring in adults, and in which the broken fragments have become completely displaced, it will generally be found equally impossible to prevent shortening; because it will be found generally impossible to bring the broken ends again into such apposition as that they will rest upon and support each other.

"4. That in all fractures, whether occurring in adults or in children, where the fragments have never been completely or at all displaced, constituting only a very small proportion of the whole number of these fractures, a union without shortening may always be expected.

"5. That when, in consequence of displacement, an overlapping occurs, the average shortening in simple fractures, where the best appliances and the utmost skill have been employed, is about three-quarters of an inch.

"If we consider the muscles alone as the cause of the displacement in the direction of the long axis of the shaft, the shortening of the limb, other things being equal, must be proportioned to the number and power of the muscles which draw upwards the lower fragment. This will vary in different portions of the limb, but nowhere will this cause cease to operate, nor will its variations essentially change the prognosis.

"I have not intended to say that other causes do not operate occasionally in the production of shortening, but only that muscular contraction is the cause by which this result is chiefly determined, and that its power will be ordinarily the measure of the shortening." (pp. 403, 404.)

The only remarks we have to make in regard to these conclusions are—1st, that they speak well for the average success of the treatment in the cases examined; 2d, that tape measurements are not certain enough to afford reliable data when quarters of an inch are in dispute; 3d, that, until the rule of conformation between limbs of the two sides of the body is shown to be that of a constant equality in length, the small amount of difference detected in the mechanical survey may sometimes be an imaginary or theoretical rather than a real or practical effect of fracture; 4th, that the question of shortening may be influenced by accidental variation through previous disease or injury, whatever the normal equality may be, and that, at all events, the amount of perceptible lameness may vary in different individuals with the same amount of physical deformity; and lastly, that no amount of negative testimony, such as Dr. Hamilton presents, can overturn the evidence of the positive facts which we are satisfied have been observed. We have not the slightest doubt that oblique fractures of the thigh have been and can be united without observable overlapping or shortening; and that they are not so rarely united without material deformity as our author would have us to believe.

In the treatment of all fractures of the femur, Dr. Hamilton, we think, rightly prefers the straight position. In this he differs from some American surgeons, of authority, who still adhere to the flexed position or the double inclined plane for certain forms of this lesion, although for fractures of the middle third there are very few who now resort to this nearly obsolete plan.

"In my tour of 1844," says he, "during which I visited very many of the hospitals of Great Britain and upon the continent of Europe, I do not remember to have seen the flexed position once employed in the treatment of a broken thigh; and I shall presently show that the straight position is at the present moment very generally adopted by the best American surgeons.

"There have been, then, three grand epochs in the history of the treatment of fractures of the thigh.

"1. That in which the straight position was universally adopted, and which reaches from the earliest periods to the period of the writings of Pott, or to about the middle of the last century.

"2. The epoch of the flexed position, which, inaugurated by Pott, had already begun to decline at the beginning of the present century, and which may be said to have been completed within less than one hundred years from the date of its first announcement.

"3. The epoch of the restoration, or that in which the surgeons, by the vote of an overwhelming majority, have declared again in favour of the straight position. This is the epoch of our own day.

"Although American surgeons have generally adopted the straight splint in the treatment of fractures of the thigh, yet the form and construction of the splint have been greatly varied. The simple long splint of Desault, and the more complicated apparatus of Boyer (Fig. 133), have each their advocates; but it is seldom that we meet with these, or with any other forms of apparatus originally employed in foreign countries, without noticing that they have been subjected to considerable modifications; indeed, most of the straight splints as well as double inclined planes in use at present among American surgeons may fairly be regarded as original inventions." (pp. 406, 407.)

There is little doubt of the originality, so far as the knowledge of the introducer reached, of many of these various contrivances; but we are equally well satisfied that very few, if any, of them present a single mechanical expedient of value which has not been anticipated, in some shape or other, long ago in European practice. The best of them are more or less modified repetitions of older instruments in this country, which, again, are revivals of forgotten predecessors in the old world. The great majority of them have the very serious objection of complexity, which ought to be opposed by every true surgeon; and too many of their devisers add the disgrace and folly of patent-right restrictions to the already heavy burthen of perplexity in application and unnecessary cost of construction. Expense is, of course, a minor consideration in a question of humanity, where anything material is to be gained by the outlay, even for those who are not among the fortunate in this world's goods; but there is no need of hesitation on that score as to the duty of the surgeon in selecting fracture apparatus. Instead of exemplifying the general sense of the insufficiency, for all proper purposes, of the common splints, as Dr. Hamilton supposes in respect to fracture of the thigh, the multiform machines which are advertised to "meet every indication" are quite as apt to be so many inventions of the enemy, to save the labour of the responsible attendant, and to flatter him with the expectation of accomplishing, by means of screws, and bolts, and joints, what his indolence or ignorance would prevent him from doing with the ordinary means. The advantages of simplicity in fracture dressing are so obvious, and the dangers, hindrances, and delusions of a departure from it are so frequent and glaring, that we regret to see some very formidable pictures of these apologies for want of vigilance and skill allotted so large a space among Dr. Hamilton's generally excellent illustrations. They are out of place in such a work, even as examples to be shunned, which, from his preface, we understand to be the part he intends them to perform. Our author is clear enough in his own record and position

on the question of simplicity, and we are sorry that any portion of his book is in the least degree exposed to the imputation of being less so than its author. Some of these instruments are certainly ingenious, and creditable to the good intentions of their authors; and, when free from the stain of patenting, may be entitled to notice. This is not the case, however, with others; the inclination of an inexperienced practitioner is so strong to the resort to these often plausible substitutes for intelligent attention to the simple indications, and the temptation to rely upon the supposed mechanical efficiency of the usurping instrument employed, is so injurious, that the less such things are seen in respectable company the better for the profession generally, as well as for their patients.

It has surprised us to find that Dr. Hamilton positively awards to Dr. Josiah Crosby, of New Hampshire, the credit of having brought the use of the adhesive plaster extending bands "into notice, if not indeed of the first suggestion." This is certainly a mistake, unless Dr. Crosby's own account be erroneous. (*Am. Journ. Med. Sci.*, 1854, vol. xxvii. p. 77.) This gentleman claims only to have used it "for the first time in 1849;" that is, at least five years after it had been in constant use at the Pennsylvania Hospital in many cases, and one year after a description had been given of it, with a strong recommendation, by Dr. Sargent in his *Minor Surgery* (edition of 1848, p. 201), and in his American edition (the second) of Druitt's *Surgery*, also published in 1848. Dr. Crosby appears to have presented some account of the adhesive extending bands at the meeting of the New Hampshire Medical Society in 1850. This is noticed in a review of Dr. Sargent's *Minor Surgery* in the *New Hampshire Journal* for August, 1850, which also refers to Dr. Wallace's employment of the strips as described by Dr. S. (See also *N. H. Journ.*, Oct., 1850, p. 65.) Dr. Gilbert, in a paper published in this journal in 1851 (vol. xxi. p. 70), rightly attributed its then comparatively recent introduction into general practice to Dr. Ellerslie Wallace, who had first resorted to it at the Pennsylvania Hospital in January, 1844. (See also *Med. Exam.*, Philad., Dec., 1852.) Dr. Gilbert was preceded by Dr. Crosby only in a paragraph in Dr. Mussey's report on surgery in the *Transactions of the American Medical Association* for 1850 (p. 387), and probably has quite as much right to the credit of success in attracting the attention of the profession to the subject as Dr. Crosby or Dr. Mussey, although neither is entitled to priority of actual publication, and still less to the credit of original invention. The only other claimant is Dr. Gross (*Med. Exam.*, Philad., Nov., 1852), in behalf of Dr. Swift, of Easton, as inventor, and of himself as the promulgator of the practice, in his work on the *Anatomy, Physiology, Diseases, and Injuries of the Bones and Joints*, published in 1830 (p. 50). This last claim is more reasonable, although it rests on a rather slender basis, inasmuch as the only allusion to the subject consists in the mention that the author's preceptor, Dr. Swift, had used two parallel strips of muslin, spread at their upper ends with adhesive plaster, as extending bands in the treatment of certain complicated fractures of the leg, this allusion being followed by a general recommendation of the method as a good one. This statement merely shows that the writer was on the threshold of a valuable improvement, but it does not appear that he pursued it beyond the first step, though this was an exceedingly suggestive one. We are satisfied, however, that Dr. Gross is right in his claim for Dr. Swift, since, as Dr. Wallace has recently informed us, the first employment of the plan in question in the Pennsylvania Hospital was due to a vague hint given him incidentally by Dr. Ennis, a pupil of Dr.

Swift, in which the former merely said that his "old preceptor was in the habit of using sticking-plaster instead of gaiters for keeping up extension in fractured thighs." The idea was soon worked out by Dr. W., and resulted, after many trials, in the arrangement first described by Dr. Sargent. Six months after his first successful experiment Dr. W. again saw Dr. Ennis, and learned from him that Dr. Swift had found that one long parallel strip on each side of the leg, without bandage or circular strips, was all that was needed for the purpose, as they held their places sufficiently under the pressure of the junk bags and splints. This led to the present mode of application, which is erroneously awarded to Dr. Crosby in the report of Dr. Mussey. Dr. Crosby, in his paper, prefers securing the bands with the ordinary circular bandage, according to the original plan of Dr. Wallace. Under the circumstances, it seems strange that the great importance of this improvement of Dr. Swift should not have been recognized and generally adopted, as it is now, long before Dr. Wallace first heard of it from Dr. Ennis. The counter-extending adhesive strips of Gilbert do not seem to have satisfied Dr. Hamilton, who probably under-estimates them as much as Dr. Gilbert may possibly overrate them. We are inclined to think, from what we have seen, that, with care in adjusting them and adapting their width to the size and shape of the parts, and protecting them from moisture, they are more manageable than any other perineal band, and hence a decided improvement, notwithstanding some little practical difficulty in their occasional application. Dr. Hamilton says nothing of the method of resorting to counter-extension from the other thigh, which is sometimes practised in this country, and is recommended in some cases by Fergusson and others abroad.

A plan entirely new to us, and probably undescribed hitherto, has been for some time past in operation at the Pennsylvania Hospital, in the hands of its contriver, Dr. H. Lenox Hodge, one of the resident surgeons. It consists in the application of a broad counter-extending adhesive strap to the front and back of the chest, near the shoulder, of the injured side; these straps are securely confined to the walls of the thorax, by three transverse strips so applied as not to constrict the chest and abdomen, and are then attached to a short and bent iron bar which extends from the upper extremity of the long outside splint, over the shoulder in such a manner as to bring the counter-extending force exactly in line with that of the extending bands below.[1] This application of the adhesive strip is certainly ingenious, and promises well. It is simple, comfortable, and effectual, so far as we can judge from the few cases in which it has been tried; and it may be recommended as an advantageous alternative in many cases, if not a general substitute, for Gilbert's method, as well as for all the older plans. There may be theoretical objections to the manner of making the counter-extension from the chest; but we doubt whether they will be sustained in practice, as there are some positive advantages, in the mode of fixing the trunk, attendant on its employment. We have no hesitation in preferring the maintenance of the extension and counter-extension in the same line, and therefore cannot agree with Dr. Gilbert in his somewhat plausible idea as to the advantage of the oblique over the straight direction for the counter-extending force.

[1] See "American Intelligence" of this No. for a description by Dr. Hodge, with a wood-cut diagram and sketch. We are now attending a bad case of fracture of the neck of the femur, in which this arrangement has been thus far found to answer remarkably well, and have seen it applied with success in two other cases.

Before leaving this topic, we may as well remark that the use of the adhesive plaster in the treatment of fractures dates back more than forty years ago in Philadelphia, since it is known by former residents at the Pennsylvania Hospital, among whom we may mention Prof. H. L. Hodge, of the University of Pennsylvania, to have been frequently employed in the wards of that hospital, by the late Dr. Joseph Hartshorne, as the only dressing in fractures of the clavicle, and as a protective one to the groin, heel, and other parts, in fractures of the limbs. We remember assisting Dr. Hartshorne, in 1839, in this application of adhesive strips to a case of dislocated clavicle, at the acromial end, and were then told by him of his practice in fracture of the same bone.

So little time is left for the consideration of the second, and, if possible, more important and valuable part (on dislocations) of this treatise, that we pass very rapidly over the remaining pages on fractures.

These, like those of the preceding chapters, are very interesting and instructive, as well as suggestive. Fractures of the patella are carefully discussed, with the usual amount of reference to American experience. The dressing represented and described as the author's mode presents nothing novel in its features. The history and rationale of this fracture, and of its treatment, are not so satisfactory as in the chapter on the same subject by Malgaigne. The clamps of this able surgeon are not noticed, as we think they might as well have been, either in objection or approval; and we think one or two other forms of simple apparatus might have been exhibited, in addition to those of Wood and Lonsdale, and to the very old-fashioned specimen of Dorsey's splint, which is given as the type in common use. The method shown in Wood's apparatus was familiar to us in a simpler form, at least eighteen years ago, in the Pennsylvania Hospital (*Phil. Med. Exam.*, March, 1842, pp. 202–3), without being considered novel then.

We agree entirely with Dr. Hamilton in the opinion that too much confidence has been placed in the efficiency of "Dupuytren's splint" in fractured fibula. He believes, "indeed, that this splint ought generally to be preferred as a means of support and retention after this accident, and I have myself usually employed it; but I doubt whether it is able to accomplish more than a moiety of all that its illustrious inventor proposed." We have seen fractures followed by deformity, notwithstanding great care and the faithful resort to Dupuytren's expedient, and we have seen many others get well without any trouble in the ordinary fracture-box. We have seen a very bad fracture of the lower third of the fibula recover without deformity under treatment in Pott's position on the injured side, the leg and foot being maintained at rest in a narrow fracture-box, adapted to the part. This fracture-box was a somewhat rude form of the splint which Dr. Hamilton recommends in applying Pott's method to the treatment of fractures of the tibia and fibula, which he prefers, without meaning to make an arbitrary or invariable rule, in "probably nine-tenths of all simple fractures of the leg." In most cases this plan, whether for one or both bones, of treating fractures of the leg by the flexed position on the outside, may, doubtless, answer very well, and in some cases better than that of the ordinary position on the heel and calf, in splints or fracture-box, whether they be suspended or not. There are not many cases of painful or excoriated heel, however, that would not be manageable either by suspension or in bran, or with a bran or sand cushion. According to Mr. Skey, the position on the side, which was formerly common at St. Bartholomew's, has long been abandoned there in favour of the position on the calf, as more uncertain than the latter. Nor have we the dislike or distrust of the fracture-box which is

expressed by Dr. Hamilton; in good hands it may be relied upon for the large majority of cases, especially in hospital practice; which is all that can be said in favour of any one form of dressing or plan of treatment.

We feel reluctant to approach the subject of dislocations, with which the second part is so ably and faithfully occupied, because we have not the time to treat it with the respect which is certainly its due, and because we dare not try the patience of our readers any further, after having taxed it so thoroughly in the previous pages.

The best that can be done, to give an idea of the manner in which our author views his task and its requirements, is to quote the following paragraphs on the general treatment of dislocations:—

"Many dislocations may be reduced promptly by manipulation alone; which mode is always to be preferred when it will prove sufficient, for the reasons that it is generally the least painful to the patient, and the least apt to inflict additional injury upon the muscles and ligaments.

"A person wholly unacquainted with anatomy or surgery may occasionally succeed in reducing a dislocated limb; indeed, it frequently happens that the patient himself, by mere accident in getting up or in lying down, accomplishes the reduction; and even in a very large majority of cases force and perseverance will finally succeed, by whomever they may be employed; but the observing student of surgery will soon discover the difference between accident and brute force on the one hand, and intelligent manipulation on the other. The charlatan bone-setter does not often allow himself to fail, unless the courage of his patient gives out, or he ignorantly supposes the reduction to be effected when it is not; but his success, achieved through great and unnecessary suffering, is often obtained, also, at the expense of the limb. While the surgeon, whose knowledge of anatomy enables him to understand in what direction the muscles are offering resistance, and through what ligaments the head of the bone must be guided, lifts the limb gently in his hands, and the bone seeks its socket promptly and without disturbance, as if it needed only the opportunity that it might demonstrate its willingness to return.

"We must understand not only what muscles and ligaments antagonize the reduction, if we would be most successful, but also what muscles, by being provoked to contraction, will themselves aid in the reduction. In short, to become expert bone-setters in the department of dislocations, one must possess a complete knowledge of the physiognomy or the external aspect of joints, acquired only by repeated and careful examinations, he must be familiar with the anatomy and functions of the muscles, he must understand thoroughly the ligaments, he must have experience, tact, and fertility of resource.

"Without these qualifications he will do better never to undertake to treat dislocations, since he is constantly liable to mistake fractures for dislocations, and dislocations for fractures; he will submit a sprained wrist to violent extensions, under the conviction that the joint is displaced; he will mistake natural projections for deformities, and fail to recognize the real deformity when it actually exists; he will leave bones unreduced, fully believing that they are reduced; and he will, all in all, within a few years accomplish vastly more evil than he can ever do good. Let a man practise any other branch of surgery, if he will, without experience or scientific knowledge, but he must not attempt to reduce dislocated bones. The most learned and the most skilful we shall find falling into error, embarrassed by the uncertainty of the diagnosis, or successfully resisted by the power of the opposing agents; what, then, can be expected of those who are both ignorant and inexperienced, but failures and disasters?" (p. 493.)

It may be said, in a few words, that the particular luxations are methodically discussed in all their aspects of diagnosis, pathology, prognosis, and treatment, with unusual care and fulness, and in the same concise, although generally perspicuous style, which characterizes the other portions of the work. The various questions of theory and practice are richly illustrated with numerous American cases, many of which had been under the personal

observation of the author. The chapter on dislocations of the spine is especially interesting in this respect. The various manipulating processes for different dislocations receive a full share of attention. The history of the mode of reducing dislocation of the thigh, in connection with the method and demonstrations of Reid, is very elaborately drawn up, as many of our readers are aware, from having already seen the substance of his remarks on the subject in the journals.

Viewing Dr. Hamilton's work once more, as a whole, there would seem to be a few matters of omission, an occasional want of regard for minuteness of detail, and, in some instances, rather indiscriminate quotations, by which authorities of little value and doubtful cases are cited on equal terms with others of a much higher class. There is little to find fault with, however, in comparison with what is entitled to high praise, and we sincerely congratulate the profession of the United States on the appearance of such a publication from one of their number. We have reason to be proud of it as an original work, both in a literary and scientific point of view, and to esteem it as a valuable guide in a most difficult and important branch of study and practice. On every account, therefore, we hope that it may soon be widely known abroad as an evidence of genuine progress on this side of the Atlantic, and further, that it may be still more widely known at home as an authoritative teacher from which every one may profitably learn, and as affording an example of honest, well-directed, and untiring industry in authorship which every surgeon may emulate. E. H.

ART. XVII.—*The Transactions of the American Medical Association.* Instituted 1847. Vol. XII. Philadelphia, 1859. 8vo. pp. 722.

THE articles comprised in this volume of the *Transactions of the American Medical Association*, are but few in number. By two of the standing committees, those on Medical Education, and on Medical Literature, no reports were made at the session of 1859, and of the long list of committees appointed at previous sessions for the investigation of special subjects, and to prepare histories of the meteorology, and epidemics of the several sections of the United States, from five, only, were reports received.

To insure the efficiency, and to increase the usefulness of the Association as a scientific body, some change seems to be required in the plan of its proceedings. The system now pursued of referring particular subjects for investigation to special committees of one member each, has been found by experience not to be well adapted to elicit a regular series of valuable communications in either of the departments of medical science. It is true that among the reports heretofore made to the Association by its special committees, there are several of a very high character. These reports, however, we suspect, are to be viewed rather as voluntary contributions from their respective authors—with whom the subjects embraced in them had been favourite specialities, upon the investigation of which their minds had been engaged for some time—than as immediate results of investigations originated and accomplished solely at the instance of the Association. It would be better, we are persuaded, were all the committees dispensed with, save, perhaps, the present standing committees, and such as occasionally shall be required for the investigation of any subject that may occur, of especial interest. We believe that the Association could rely, with

entire confidence, upon the presentation of valuable voluntary contributions from its members, were its sessions so conducted as to afford sufficient time for the free discussion of the views set forth in such contributions; or were the rule adopted to refer them to suitable committees, to carefully examine them, and report upon their respective merits: no paper presented to the Association, at any of its sessions, being allowed to appear in the printed transactions unless the same has received the favourable verdict of a committee of reference.

How far the interest of the meetings of the Association will be augmented, and the value of its *Transactions* insured by the carrying out of the recommendation adopted at its last session, to divide it into sections, time alone must determine. It is the plan which is already adopted by nearly all other scientific associations, and from this fact we have a right to infer that it has been found to work well.

A concise, but very terse and pointed report on the subject of Criminal Abortion, investigated with a view to its general suppression, is presented by a committee of which Dr. Horatio R. Storer, of Massachusetts, was chairman.

The report denounces, in the most explicit terms, the procurement of abortion, as no trifling offence against public morality and decency—no mere misdemeanor—no unjustifiable risking of the life of a pregnant female for the attainment of some paramount good—but a crime of the most heinous character on the part of all concerned in it; being no less than a wanton and murderous destruction of a living human being; a deliberate taking away of life, justifiable in no instance by any defensible motive, nor counterbalanced by any possible benefit that can result from it under any supposable contingency; but, in all cases, a crime of the first magnitude, deserving of unmitigated detestation.

There can, certainly, be no surer evidence of the moral decadence of a community than the prevalence in its midst of criminal abortion, and the toleration of its acknowledged practitioners. That the crime has fearfully increased of late years in our own country, more especially in all of our larger cities, is shown by the clearest and most incontestable evidence. So venial an offence has the procurement of abortion come to be considered, and so readily obtained are the means for its accomplishment, that it is resorted to daily, not merely by such as would conceal, through its instrumentality, the results of illicit sexual intercourse, but by even the mothers of families, to relieve them from the suffering and confinement incident to childbirth, and from the care, the responsibility, and the expense that would be entailed upon them by a family of children.

The causes of this general demoralization are manifold. While, in many instances abortionism is the legitimate result of preceding sinfulness, from the consequences of which it is adopted as a means of escape; in not a few cases it is resorted to from motives based in utter selfishness—a selfishness so debasing and denaturalizing in its effects, as to render a female willing to sacrifice the fruit of her own womb, and to forego the pleasures—the sweet and holy sympathies of maternity, for no higher object than to administer to her personal ease and comfort; or to enable her to continue without hinderance or restraint in the path of folly.

In the report before us, three of the most important causes of the prevalence of criminal abortion are referred to, as those with which the medical profession have especially to do.

The first is a widespread ignorance of the true character of the crime.

A belief existing, even among mothers, that the fœtus is destitute of life previously to the so-called period of quickening.

The second cause is the popular belief that the medical profession is itself careless of fœtal life. That is, physicians, without being knowingly or intentionally accessary to the crime of criminal abortion, are supposed to be, at times, liable to omit the precautions or means adapted to prevent its occurrence.

The third cause is to be found in the defects of our laws—both common and statute—in their non-recognition of the actual and independent existence of the child before birth as a living being; in consequence of which, conviction for the crime of abortion is prevented in almost every instance. With a strange inconsistency, while the law fully acknowledges the existence of the fœtus in utero, in providing for its civil and pecuniary rights, it fails to recognize it personally and as criminally affected, denying to it any protection from attempts upon its life.

The evil and its leading causes being thus exposed, the duty incumbent upon every honest member of our profession is perfectly plain.

"If to want of knowledge on a medical point, the slaughter of countless children now steadily perpetrated in our midst, is to be attributed, it is our duty, as physicians, and as good and true men, both publicly and privately, and by every means in our power, to enlighten this ignorance.

"If we have ever been thought negligent of the sanctity of fœtal life, the means of correcting the error are before us. If we have ever been so indeed, there are materials, and there is good occasion for the establishment of an obstetric code, which rigorously kept to the standard of our attainments in knowledge, and generally accepted by the profession, would tend to prevent such unnecessary and unjustifiable destruction of human life.

"If the tenets of the law, here unscientific, unjust, inhuman, can be bettered—as citizens, and to the best of our ability, we should seek this end. If the evidence on this point is especially of a medical character, it is our duty to proffer our aid, and, in so important a matter to urge it. But if, as is also true, these great fundamental, and fatal defects of the law are owing to doctrinal errors of the profession in a former age, it devolves upon us, by every bond we hold sacred, by our reverence for the fathers in medicine, by our love for the race, and by our responsibility as accountable beings, to see these errors removed and their grievous results abated."

The report concludes with recommendation of the following resolutions for adoption by the Association :—

"*Resolved*, That while physicians have long been united in condemning the act of producing abortion, at every period of gestation, except as necessary for preserving the life of either mother or child, it has become the duty of the Association, in view of the prevalence and increasing frequency of the crime, publicly to enter an earnest and solemn protest against such unwarrantable destruction of human life.

"*Resolved*, That in pursuance of the grand and noble calling we profess, the saving of human lives, and of the sacred responsibilities thereby devolving upon us, the Association present this subject to the attention of the several legislative assemblies of the Union, with the prayer that the laws by which the crime of procuring abortion is attempted to be controlled may be revised, and that such other action may be taken in the premises as they in their wisdom may deem necessary.

"*Resolved*, That the Association request the zealous co-operation of the various State Medical Societies in pressing this subject upon the legislatures of their respective States, and that the President and Secretaries of the Association are hereby authorized to carry out, by memorial, these resolutions."

A most able report on the Medical Topography and Epidemics of Cali-

fornia, is from the pen of Dr. Thomas M. Logan, of Sacramento. There are few places which, in respect to the etiology and pathology of disease, present so fruitful and interesting a field for observation, as does California. Remarkable in the configuration of its surface, in its geological conditions, in its varieties of climate, in the character, condition, pursuits and mode of life of the crowds who first flocked there to appropriate its golden treasures, as well as of those who constitute the bulk of its present population, it at the same time presents before our eyes the rapid transition stages which, in this country, occur "between the rudeness of first settlements, and the more refined condition of countries long subject to civilization."

The character of the climate of California, considered in a general manner, may, according to Dr. Logan, be designated as Asiatic. In the greater portion of the State, the temperature, during the summer season, rises in the afternoon, in consequence of the very slight amount of surface moisture and the absence of clouds, as high as it does in districts, on the Atlantic side, ten or twelve degrees further south, and sinks proportionately low during the night; rendering this portion of the twenty-four hours cool and chilly. The year is divided into two seasons—the one dry and the other rainy. The first embracing the months of October, November, December, January, February, March, April, and May; the highest amount of rain falling during the last winter, and first two spring months. The dry season prevails through the months of June, July, August and September, during which but a very slight amount if any rain occurs.

"Although the thermometer," says Dr. L., "has been known to fall as low as 33° as late as the 10th of February, still, the leafing process generally commences during the first week of February, and is completed at a temperature not much exceeding that of the mean annual. The measure of heat increases very gradually from month to month; indeed, the same uniformity of temperature obtains throughout the meteorological seasons. In summer the greatest vicissitudes of temperature are found to occur. The commencement of autumn is quite similar to the beginning of spring in its mean of daily temperature. The earth remaining warmer than the atmosphere under the decline of temperature, activity is partially renewed, after the drought of summer, by the influence of the light early showers of October. The first frosts occur about the middle of November, and the decline into winter is prolonged until the latter part of December. Ice is seldom formed before the beginning of January, and then rarely remains unthawed for twenty-four consecutive hours."

In a general point of view the climate of California may be pronounced salutary. For those who are possessed of the ordinary comforts of life, and who observe the leading hygienic precautions, there are few locations in which a larger amount of health may be, with certainty, enjoyed. Autumnal fever prevails every year, and, occasionally, as in 1858, to a very great extent—but, usually, of so mild a character and so amenable to treatment, as seldom to terminate fatally.

The causes of disease have heretofore been, according to Dr. L., the combined influence of the peculiar meteorological and physical conditions of the country, modified by temperament. The varieties of disease—as cholera, diarrhœa, typhoid fever, etc.—formerly met with, being entirely referable to the mode of life—the bad hygienic condition of the earlier population. This is shown by the fact that the disappearance of these diseases have corresponded with the increase of the comforts of, and ameliorations generally in the conditions of, the community.

As in all other countries, malarial fever, almost unknown in the early period of its settlement, has developed itself in California with the increased

cultivation of the soil, and the general advance of industry and civilization. In other portions of the United States, however, where the prevalence of autumnal fever has followed upon the changes induced by cultivation, it has been the result, usually, of the extermination of forests and the clearing off of the luxuriant primeval vegetation, in consequence of which land that had been previously shielded from the sun's rays, and of course saturated with moisture, has become exposed to their influence. In California, however, districts of country, almost destitute of trees, and naturally arid, have been rendered moist and malarious, in consequence of the copious distribution of water for mining and agricultural purposes.

"From the study of medical topography with reference to autumnal fever in the great Mississippi Valley," we quote from the report before us, "we find, according to Dr. Drake, that it is a safe generalization to conclude that, all other circumstances being equal, fever prevails most where the amount of organic matter is greatest, and least where it is least. In valleys, where it is washed down from the hills, and deposited with the debris of rocks, this substance rapidly augments itself by promoting more luxuriant crops of vegetation. Whereas, in the pine lands of our Southern Atlantic States, it is small in quantity from the sandiness of the surface, just as it is in our desert lands, where the fever is unknown.

"Now, with respect to the Sacramento Valley, we find the amount of organic matter very different in different parts; for its production depends on the fertility of the soil, and on the temperature and moisture. Where these elements are all present, as in the neighbourhood of our rivers, sloughs, and overflowed lands, and their agency is not counteracted by a growth of tulé or other vegetation—there we always find more or less of fever every year; indeed, it is an endemic of such localities. Especially do we find the disease most constant along those river courses, whose turbid waters, being confined in the dry season within narrow bounds, leave a great part of their channels uncovered, and thus expose an immense amount of deposit brought down from the washings of the auriferous soil—as the Yuba, the Feather, and the American rivers and their tributaries. There are, however, regions of our valley where the loose upper stratum consists chiefly of the debris of rocks beneath, or of the deposits of the debris of other rocks spread over the surface by ancient inundations, and likewise tracts in which the rocks themselves appear at the surface, and from the general declivity of the land, the organic matters are washed off by the rains of winter, into the innumerable ravines and channels of creeks and rivers with which the face of the country is diversified, and which becoming dried up in summer, the whole region has remained perfectly healthy. Since, however, the introduction of water for mining purposes—the digging of ditches, the building of dams, and the establishment of large reservoirs—we find these very regions subjected to the disease; and this, too, we find to be in perfect accordance with all that has been observed in every part of the globe where intermittents prevail. For it appears necessary to the production of the efficient cause, be it malaria or whatever we please to term it, that there should be a surface capable of absorbing moisture, and this surface should be flooded and soaked with water, and then dried; and the higher the temperature, and the quicker the drying process, the more powerful—more probably because more plentiful—is the effect. Hence the conclusion is legitimate, that decaying organic matter brought and deposited in various directions, in a condition and under circumstances most favourable to decomposition, has been instrumental in occasioning the late epidemic (that of 1858) in California. As to the mode in which this decaying organic matter co-operates with the other essentially necessary conditions, heat and moisture, in the production of the morbific effect, we have no positive knowledge, nor would the discussion of the various hypotheses that have been framed in relation thereto, inure to any practical good. It may supply the material out of which a poisonous gas is formed, as maintained by some, or it may prove a nidus or hot-bed for animalcules, or vegetable germs, according to the theories of others. In either case, we know the conditions that are necessary to give it efficiency. As long as these condi-

tions coexist, certain effects are produced; interrupt, counteract their coefficiency, and the probability is we may never afterward hear of such another wide-spread epidemic as (that of 1858) we have been studying in its etiology."

In the course of the history given in the report before us of the epidemic of intermittent fever which, in the autumn of 1858, prevailed so extensively throughout California, Dr. Logan presents some judicious remarks in relation to the character and management of the disease, which will apply equally to malarial fevers generally, wherever these prevail annually as wide-spread endemics. There is nothing, it is true, in the remarks of Dr. L. that can be considered as particularly novel; they reveal no new facts in reference to the pathology of these affections; no development of any new therapeutical plan or means for their treatment; they, however, recall attention to principles and rules of practice that had become in a great measure forgotten, if not entirely ignored.

We pass by the report which follows, "On a Uniform Plan for Registration Reports of Births, Marriages, and Deaths," by Dr. W. L. Sutton, of Kentucky, as we have already one which occurs previously, "On Government Meteorological Reports," prepared by Dr. Richard H. Coolidge; not because of any want of interest or of value in these reports, but from the impossibility of presenting any satisfactory summary of either of them. The views presented in both appear to us judicious, and adapted, if carried out, to secure a valuable series of statistics. We would press the report of Dr. Sutton more especially upon the attention of the members of the profession generally. They having the power within their own hands of inaugurating in every portion of the United States a registration of births, marriages, and deaths, in accordance with the plan recommended by its author.

The next report in order is "On the Topography and Epidemic Diseases of Michigan." It is from the pen of Dr. J. H. Beech.

In respect to its medical topography, Dr. B. divides the State of Michigan into three sections. The first embracing the northern peninsula. This district has a climate whose salubrity renders it an admirable resort for that class of invalids in whom the depressing influences of heat and humidity have so far deranged the digestive and assimilative organs, as to lay them open to the attacks of acute disease when they remain exposed to the annual changes which occur in the lower latitudes and inferior altitudes. The dryness of the atmosphere in this district has been noticed by every observer. Malaria is there unknown, and the summer solstice never brings with it its enervating blight. The only epidemic visitation experienced by the white inhabitants, of which Dr. B. has obtained information, was that of typhus fever, which, according to the statements of Dr. Pitcher, prevailed at Fort Brady, in the years 1826 and 1827.

The second of the three sections referred to by Dr. B. includes that portion of the southern peninsula of Michigan which lies north of the valley of Au Sable and the Manistee River. This section, we are told, is but little inferior to the former in point of salubrity. The atmosphere is usually dry, while the temperature is not high, excepting under the direct rays of nearly the mid-day sun. The character of the diseases which occur in this second section, and the season of their greatest prevalence, correspond in some degree with those of the distinctly malarious regions. Aside from the charms of the scenery about Lake Superior, and the conveniences of sojourn, it is very probable, Dr. B. remarks, that it is a more desirable residence for invalids than the northern peninsula.

The third section, according to the division suggested by the reporter,

comprises the middle and southern portions of the State. It borders closely upon the epidemic zone, although still beyond the range of the more destructive of the epidemic maladies.

"A rich alluvial soil, a large portion of which is deeply covered with an exceedingly porous vegetable mould, and watered or drained by streams but slightly below the general level of the country, affords unquestionably sources of humidity at temperatures in summer, which favour decomposition less rapid, it is true, but equally certain as in the torrid zone."

"Scarcely a stream exists in the southern portion of the State, which does not in every few miles of its course widen into a lakelet of several hundred acres, skirted on one or more sides by savannas which might diversify and adorn the landscape without noxious influence, if properly cleared and drained; but which too frequently have been inundated by a mill-dam at the *debouche*, converting the semi-aquatic trees and grasses into vast rotten quagmires, to be left uncovered and seethe in the summer's sun, germinating diseases, like Python of Egyptian fable, to encircle its sallow victims in folds of endemics and epidemics."

We have already mentioned the endemics of typhus fever described by Dr. Pitcher as occurring at Fort Brady in the years 1826 and 1827.

"In these two epidemics there were most dissimilar atmospheric conditions. The first visited a section proverbially healthy, intensely cold weather prevailing, and neither want nor other depressing causes being known, nor any possibility of importation. The latter in a humid locality, in a hot summer, and among a portion of population imperfectly cared for, in a city whose accommodations were certainly not at that time above the demands of necessity."

Dr. Bailey describes an epidemic of a typhoid character, which prevailed chiefly among children, in Lapeer County, in 1841, and another which prevailed among the population generally throughout the middle and southern portions of the State in the year 1848. A similar fever is noticed by Dr. Peyry, of Washtenaw County, as having prevailed in Northfield and Saline during the spring of 1855. In various other parts of the State typhoid fever is described as having occurred in different years under certain anomalous forms. The description furnished us of the general characteristics presented by the fever, as it appeared in these epidemic visitations, would lead us to suspect that the disease described as typhus fever was, in some of them at least, the affection known as cerebro-spinal meningitis. That it bore all features of the latter, in certain localities, is admitted by Dr. Peyry in his account of the epidemic observed by him.

Dr. Bailey notices a severe and fatal epidemic that prevailed in different portions of the State during the early period of 1848, but especially in Almont and Detroit.

"The winter," he says, "was an 'open one,' there being a thaw every fourteen days, when what little snow had fallen would melt off, leaving the ground wet. As soon as the wind commenced blowing from the south every one would begin to complain of chilliness. On exposure to the wind, a sense of coldness would pervade the whole body, attended with a peculiar sensation in the nape of the neck, producing an inclination to draw the head back. A person would feel, only to a greater degree, all the symptoms usually called 'aguish.' Attending this coldness was a cool, clammy sweat, especially on the lower limbs, and severe pains from the knees down."

If nothing was done to remedy this state of things, within twenty-four hours a severe pain began to be felt in some part of the body, generally in a joint—as of the great toe, the knee, the hip, etc.—which was soon followed by intense headache, great coldness of surface, redness of eyes, rigors,

and other indications of great depression. The pulse became sluggish, and slower than natural—it was rather full in some cases, but always easily compressed; the tongue was pale or of a leaden hue, and spongy or flabby, but seldom coated. In most cases reaction took place within a few hours. Occasionally the patient would sink into a comatose state, and die under all the appearances of compression of the brain. The amount of febrile excitement which succeeded the cold stage was proportionate to the intensity of the latter. It usually passed off in a few hours with a profuse sweat, leaving the patient free from pain, but much debilitated. If the course of the disease was still uninterfered with by remedial measures, after from twelve to twenty-four hours another chill would occur, and be succeeded by reaction as before, attended with delirium and other more severe symptoms than the previous exacerbation. This would go off with perspiration; and if the proper remedies were still withheld, a third paroxysm would occur at an interval six hours less than the first. With few exceptions, death took place upon the occurrence of this third paroxysm.

In many cases the symptoms of the first paroxysm were so slight as to induce the patient to consider them of trifling importance, no uneasiness being experienced by him until upon the occurrence of a second paroxysm. During the latter, delirium and all the phenomena observed in cases of congestion of the brain would usually supervene, such as dilatation of the pupils, strabismus, convulsions, and in some cases a firm contraction of the muscles of the spine and those on the posterior portion of the lower limbs, causing the body to become bent backwards in the form of an arch, the occiput and heels alone touching the bed as the patient lay upon his back. Occasionally the spasmodic symptoms resembled those of chorea or of opisthotonos. After a third paroxysm, uniformly, the congestive symptoms became permanent, or only interrupted occasionally by an exacerbation of the convulsive phenomena, occurring at some particular portion of the twenty-four hours, usually at night. There was little derangement detected of the stomach or the other assimilative organs on the first attack of the disease; subsequently, however, constipation set in, with scantiness of urine and of the other secretions. Puerperal females, we are told, were especially liable to be attacked by the epidemic during the winter season. The initial chill was generally experienced about the third day after confinement. So common an occurrence is a more or less decided chill at this period, when the secretion of milk commences, that at first its serious import was overlooked, and, the true character of the case not being understood, a second chill would be allowed to ensue, accompanied by all the formidable phenomena indicative of cerebral disease.

The degree of severity, both in the attack and subsequent symptoms, varied in different cases, according to the age, sex, temperament, and previous habits of the patient. The disease attacked most usually individuals of adult age, of the male sex, and who were exposed to vicissitudes of weather, and of irregular habits.

Examination after death revealed effusion into the ventricles of the brain, with pus in the points where the extravasation first took place, which was at the base of the brain, but generally lying upon the cerebellum at different places. Dr. B. states that it was impossible, in any case he examined, to determine the exact spot where the lesion occurred. The spinal cord does not appear to have been examined.

When cases of the disease came early under treatment, they yielded readily to simple remedies. Usually the patient was covered up in bed, with sina-

pisms to the ankles, calves of the legs, and inside of the thighs. Hot bricks wrapped in wet cloths were applied around different parts of the body, particularly of those places where severe pain was experienced, and bladders containing snow or powdered ice upon the head and back of the neck. As soon as the extremities became warm, and the circulation equalized, the patient would experience relief, and commence to sweat. Quinine, combined with opium, capsicum, or other remedy indicated by the particular symptoms and circumstances of each case, was given to the extent of from thirty to sixty grains, in doses of from five to ten grains every two or three hours, until the period of the night paroxysm had passed. In cases attended with collapse, brandy and other stimulants were required to be given freely. It was generally found advisable to apply warmth to the extremities, and employ other means to prevent a second attack, half an hour or more before it is expected to occur. When alteratives were indicated, they were combined with the antiperiodic remedies, or withheld until the paroxysms were suspended. In most cases, during the first thirty-six or forty-eight hours the tongue was clean and pale, and no vomiting or other derangement of stomach was observed; but subsequently, in some cases, the tongue would become coated, or red and dry, when the case was treated on general therapeutic principles.

"It was a common thing," says Dr. B., "to meet people in the street complaining of the peculiar coldness and pain in the neck above mentioned, and in such cases we were in the habit of prescribing quinine, thirty grains, divided into six doses, combined with capsicum or piperine, one to be taken every two hours, with as much brandy as could be borne without affecting the head—and it was astonishing how much could be taken without producing intoxication.

"Bleeding was tried in two cases attended with congestion of the brain, but with bad rather than good effect. The only hope of saving the life of the patient was to get the disease under control before the occurrence of the second paroxysm."

The State of Michigan has always sustained a high reputation—and, Dr. B. is convinced, deservedly so—as a residence for such as possess a decided predisposition to phthisis pulmonalis. It has been repeatedly remarked, and the truth of the observation is confirmed by the experience of Dr. B., that individuals from the Eastern and Middle States, of marked hereditary or acquired tuberculous diathesis, usually resist the encroachments of the malady while residing in Michigan to a much greater degree than before immigration, or than members of their own families who remain at home. They would appear also less liable to transmit the tuberculous taint to their offspring.

"With full conviction," remarks Dr. B., "of the general correctness of the conclusions of Dr. Drake, in his work on 'the Diseases of the Interior Valley of North America,' we have not found his opinions in regard to the effect of colder regions upon consumptives, substantiated by the reports of invalids, except where the effect of purulent absorption, or other depressing influences, were diminished for a time, through the additional vigor given to the circulation by a journey, and the early periods of sojourn in Lake Superior regions. Tuberculous patients returning to the southern portions of the State from there, appear to have declined rapidly after the excitement of new scenes had passed; and, although the dryness of the atmosphere would render insensible, and undoubtedly diminish the perspiration which had bathed the skin in more humid climates, and the appetite generally improves, still the cough often became more irritating, and pleuritic pains more troublesome, sometimes demanding a hasty retreat."

The fact of the extreme infrequency of pulmonary tuberculosis, indeed

of tuberculosis generally, among the inhabitants of cold, dry, equable climates, is incontestably established by a series of the most reliable statistics collected by different observers, within the past few years, and many striking and well-authenticated facts would even seem to indicate that, in individuals who are strongly predisposed to tuberculosis, a residence in a climate as we have just described, will so far ward off the occurrence of pulmonary consumption as to enable them to pursue without impediment any active occupation, their lives being extended to the ordinary limits of human existence. But we have no reason for supposing that a cold climate, however dry and equable, would prove a proper one for patients who are actually labouring under pulmonary consumption. With the views we entertain in respect to the pathology of pulmonary consumption, we should anticipate that an increase rather than a diminution of the disease would be caused by the removal of the patient in whom it had already developed itself from a mild, warm, or even hot climate, into a cold, although equable and dry climate, though we believe that the evil influence of such a climate would be far less than that of a cold, damp, variable one.

The only paper which remains to be noticed is one by Dr. Joseph Jones, of the Medical College of Georgia, entitled, "Observations on some of the Physical, Chemical, Physiological, and Pathological Phenomena of Malarial Fever." It is a production of very large pretensions, extending over a wide, almost limitless field of inquiry; and occupying upwards of four hundred pages of the present volume of *Transactions*.

It would be impossible, even if we were inclined to enter upon the task, to do justice to a theme so vast as that discussed by Dr. Jones, in a review or analysis of any reasonable limits. His first chapter, alone, which treats of the relation of man to the exterior universe—the relations of astronomical, terrestrial, physical, chemical, and physiological phenomena, and the character and extent of physiological and pathological investigations established by the relations of man to the exterior universe, opens out before us a field of inquiry so extensive, and intricate, that even a superficial glance at its leading propositions, and the facts and reasoning upon which they are based, would extend our notice far beyond all reasonable limits.

The essay of Dr. Jones is unquestionably, upon the whole, a very able and instructive one. Some few of the general propositions of the author can be viewed, it is true, in no other light than as mere truisms, dressed up in a somewhat new phraseology, and most diffusively set forth; while others are but of doubtful accuracy, and several are expressed in terms too loose and indefinite to convey any clear and positive idea.

The foregoing remarks apply more especially to the general matter contained in the first three chapters. Those portions of the essay which treat of the changes the blood undergoes in malarial fever—the pathological anatomy of the several types of this disease—the comparison of the morbid changes detected after death, with the phenomena presented by the disease during the life of the patient, with similar changes in other maladies, and with the condition of the diseased organs, tissues, and apparatus in the normal state, are marked by a closer process of reasoning; the conclusions being sustained, also, by a series of more pertinent, positive, and definite observations. In the elucidation of the important questions embraced in the three concluding chapters of the essay, it must be confessed that Dr. Jones has exhibited no common ability, and not a little research; every portion of these chapters is marked by extended and careful observation, and, in most instances, by a spirit of cautious induction. They are throughout

most interesting and instructive. Although we cannot give assent to the accuracy of all the premises assumed by the author, nor to the entire legitimacy of all his conclusions, yet we feel very confident that no one can rise from the attentive study of the essay without having acquired a better knowledge of the pathology, generally speaking, of malarial fever than he before possessed.

We shall not pretend to offer an analysis of the several premises which Dr. J. believes that he has established, nor can we attempt to follow him in the course of reasoning by which he is led to the pathological conclusions he advocates. The utmost we can do is to present a general summary of the more prominent of his leading conclusions, and as far as possible in his own words.

In relation to the changes the blood undergoes in malarial fever, Dr. J. believes that the observations he has adduced prove its coloured corpuscles, together with its albumen, to be diminished, whilst the extractive matters of the serum are increased, and that the extent and rapidity of these changes correspond with the severity and extent of the disease. The destruction of the coloured blood-corpuscles being more uniformly observed and more rapidly accomplished in malarial fever than in any other acute affection. The destruction is effected mainly in the liver and spleen. The fixed saline constituents of the blood-corpuscles, also, are shown, according to Dr. J., by the same series of observations, to be often diminished in malarial fever. The alteration and destruction of the coloured blood-corpuscles are invariably attended, Dr. J. affirms, by aberrated muscular and nervous action.

The destruction of its coloured corpuscles is not the only change the blood undergoes in the liver; Dr. J. has found that during malarial fever animal starch accumulates in that organ, whilst there is at the same time an absence of grape sugar.

In malarial fevers, and in fever generally, he remarks, the fibrin of the blood is rarely increased. It either remains within its normal limits, or is diminished in quantity. So far as his observations extend, the amount of the diminution of the fibrin corresponds with the severity of the disease.

These changes in the blood, and the resulting modifications in the constitution of the solids, Dr. J. believes to take place in those who have been subjected to the morbific influence of the malarial poison, before any of the phenomena constituting the disease termed fever have developed themselves —to a sufficient extent to attract attention—constituting what he denominates the malarial cachexy. He denies that, in malarial fever, the cerebro-spinal system is the seat of irritation or of inflammation, provided these terms be limited to the meaning commonly adopted; but that when irritation and inflammation of the cerebro-spinal system do occur in the progress of the fevers referred to, they are strictly accidental phenomena, and by no means dependent upon the definite and uniform action of the malarial poison.

The following is the rationale, according to Dr. J., of the phenomena which constitute a paroxysm of malarial fever as exhibited in its most common and regular form, that of an intermittent:—

"The poison, as we have demonstrated in the chapter on the blood, first alters the constitution of the blood, and interferes with the actions and secretions of those organs which elaborate the blood, before producing any perceptible changes in the phenomena of either the sympathetic or cerebro-spinal systems, this alteration of the blood progresses until a point is reached, where either such compounds are generated in the cycle of chemical changes, induced by the malarial

poison, or the constituents of the blood, especially the coloured blood-corpuscles and fibrin, become so altered that disturbances are produced in the chemical changes by which the capillary circulation is maintained, and as a necessary consequence, the action of the heart, which depends as all other muscular actions do, upon the chemical changes in the capillaries, is impeded, and the blood generally stagnates in the capillaries, and accumulates in the large bloodvessels of the trunk and internal organs, and the temperature of the extremities, due to the chemical changes of the blood in the capillaries and the surrounding tissues, sinks far below the normal standard; this arrest of the capillary circulation in the extremities, and probably also, in the lungs, is attended by the retention of the products of excretion, as carbonic acid, and the matters thrown off from the skin and kidneys; these excrementitious offending matters, together with the products resulting from the perverted chemical changes, due in part to the reduction of the temperature of the extremities many degrees below the normal standard, stimulate the sympathetic and cerebro-spinal nervous system; the sensation of cold is felt, attended by twitching and jumping of the muscles, entirely beyond the control of the will, because they are due to aberrated muscular and nervous action, arising from disturbances in the capillary circulation, and from the action of the perverted elements of the blood, the respiration is aroused, more oxygen is introduced, and the temperature of the trunk elevated, provided the alterations in the constitution of the blood have not proceeded too far, or the nervous system been so overwhelmed, either by the action of the altered products, or of the malarial poison, that they cannot respond to the excitation produced by the altered and retained productions; the elevation of the temperature of the trunk is attended by more rapid circulation of the blood in the capillaries of the heart and of the nervous centres, and consequently by a more rapid and powerful action of the heart and generation of nervous force, the oxygen is introduced and distributed with greater rapidity, the chemical changes in the capillaries are again excited, the capillary circulation is first restored in the trunk, and then in the extremities, the elevation of temperature becomes general, and we have the phenomena called fever."

During the active chemical changes of fever, the malarial poison and the altered products of the blood are drawn into the round of chemical change, physically and chemically altered, and are finally thrown off from the lungs, skin, kidneys, and intestinal canal. After the removal of these offending products, the excitants of the sympathetic and cerebro-spinal system, after the system has been purified, as if by fire, then the nervous system returns back to the normal exercise of its functions; the force and frequency of the heart diminish; the panting, full respiration subsides into the calm regularity of health; the temperature, both in the trunk and in the extremities, returns to the normal standard, and we have what is called the remission of fever.

"If remedies have been applied which effect the permanent alteration, and destruction, and removal of the malarial poison, there is no return of the chill, succeeded by fever. If, on the other hand, the poison has not thus been removed, the same round of phenomena is repeated, the blood is again altered, the capillary circulation is again retarded, and the whole round of phenomena are repeated."

The changes that take place in the colour of the liver during malarial fever, is referred, by Dr. J., to changes in the amount and physical and chemical constitution of the blood in the capillaries of the organ, and to the physical and chemical changes in the bile, and the contents of the secretory apparatus.

Alterations of the spleen are laid down by Dr. J. as among the very first of the pathological effects of the malarial poison, and previously to the development of the phenomena constituting the febrile paroxysm. The

alterations consist chiefly in the engorgement of the spleen with blood, the softening of its texture, and rupture, in many places, of the trabeculæ.

The following propositions are laid down by Dr. J. in reference to certain phenomena characteristic of the several forms of malarial fever.

"I. During the cold stage (*chill*) there is a rapid, feeble pulse, full, rapid respiration, and a hot trunk and cold extremities.

"II. During the cold stage, the temperature of the extremities is reduced far below that of the trunk, and even below the standard of health, because the circulation of the blood in the bloodvessels and capillaries is feeble.

"III. The diminution of the capillary circulation and reduction of the temperature of the extremities, precede the aberrated nervous and muscular phenomena denominated chill.

"IV. The higher the temperature of the trunk during the cold stage, the more rapid will be the equalization of the circulation and temperature.

"V. The higher the temperature of the trunk during the cold stage (stage of equalization of the circulation and chemical action), the milder and shorter will be the attack as a general rule, provided there be no complication, as congestion of the brain.

"VI. In malarial fever there is a close relation between the state of the skin, pulse, respiration, and temperature of the extremities and trunk.

"VII. The phenomena of the cold stage, preceding the hot stage of *remittent* fever, are similar to those of the cold stage of intermittent fever.

"VIII. The most important difference between the cold stage of *remittent*, and that of *intermittent* fever, is a difference of degree and not of kind, the phenomena of the cold stage of *remittent* fever, are more protracted than those of *intermittent* fever, the sympathetic system is not so rapidly aroused, and the circulation in the capillaries of the extremities is not so rapidly restored in *remittent* as in *intermittent* fever.

"IX. In *remittent* as in *intermittent* fever, the increase of the action of the pulse and respiration is attended by an elevation of temperature, and the elevation of temperature corresponds more accurately with the increased actions of the circulatory and respiratory systems in *intermittent* than in *remittent* fever—that is, the pulse and respiration are more accelerated in *remittent* fever, whilst the temperature does not rise higher than that of *intermittent* fever.

"X. The elevation of the temperature is more persistent in *remittent* than in *intermittent* fever.

"XI. The pain upon pressure of the epigastrium is more acute, and the vomiting more obstinate, and the cerebral symptoms more common and dangerous, in *remittent* than in *intermittent* fever.

"XII. The secretions of the mouth are more completely checked, and the tongue is drier, redder, and rougher to the feeling, in *remittent* than in *intermittent* fever.

"XIII. The glowing tongue of *remittent* fever is not an index of inflammation.

"XIV. The secretions of the salivary glands and mucous membrane of the mouth, are not only more diminished, but they are also more perverted in *remittent* than in *intermittent* fever. The acidity of the saliva is greatest in *remittent* fever.

"XV. The coma, delirium, and severe pain in the head, so often present in the severe cases of *remittent* fever, are, as a general rule, not indicative of inflammation of the brain, but of the stagnation of the blood and perversion of the chemical changes in the capillaries of the brain, and of the action of the altered blood upon the nervous elements, and of the direct action of the malarial poison upon the nervous structures.

"XVI. The changes of the urine in *remittent* fever are the same in kind, but different in degree from those of *intermittent* fever.

"XVII. The malarial poison may produce such profound alterations in the blood, and such profound impressions upon the sympathetic and cerebro-spinal systems, and upon the fibres of the heart, that both the capillary circulation and the general circulation will be greatly deranged, the chemical changes in the

capillaries and organs from which the nervous and muscular forces are developed arrested, and the temperature of the trunk diminished.

"XVIII. The malarial poison may produce such derangements in the blood and its containing vessels that fibrinous coagula will be formed in the heart and large bloodvessels, and produce suddenly and without previous warning the phenomena denominated congestive.

"XIX. The action of drastic purgatives, or of an emetic, or profuse bloodletting, may act in conjunction with the malarial poison, and induce phenomena denominated congestive, pernicious, or malignant.

"XX. There is always a want of co-ordination between the actions of the circulation and respiration and animal temperature in congestive fever.

"XXI. The phenomena of congestive fever differ from those of the cold stage of intermittent and remittent fever in the want of elevation of the temperature of the trunk.

"XXII. The phenomena of congestive fever are due to depression of the fever, and not to excitation, and should be treated accordingly."

As a general rule, Dr. J. has found the uric acid of the urine to be either normal in amount or diminished in the active stages of malarial fever, and that the amount increases during convalescence.

The chemical pathology upon which Dr. J. bases his theory of the action of the malarial poison on the animal organism, and in the production of periodical fevers, is extremely attractive from its simplicity and the apparently easy and consistent explanation it gives of the efforts of the vital forces of the system to restore to the blood and to the solids their normal condition, and through these to the sympathetic and cerebro-spinal system its healthful functions. It still remains to be proved, however, that the first act of the malarial poison is the production of "chemical changes in the elements of the blood and organs different from the chemical changes of health," and that the abnormal condition of the fluids and solids of the body, thus induced, by stimulating the sympathetic and cerebro-spinal system, arouses those functions to increased energy, which, by their action, are adapted to bring about again the normal chemical changes of the living organism, and to cause a modification of, and the elimination from the body of the malarial poison itself, and of the abnormal products of the blood which had been produced by its presence.

Dr. J. admits that his series of observations on the subject of malarial fever, notwithstanding they have cost him three years' labor and study, based upon the careful observation of more than three hundred cases of the several forms of malarial fever, as they are met with in different portions of the State of Georgia, are incomplete; he claims for them, in fact, no higher character than as mere beginnings in the right direction; and in this light we have no objection to accord to them a most favourable reception, joining, at the same time, earnestly in the hope expressed by the author that the entire series of observations, and the statements, relations, and laws deduced from them, may be tested by careful, conscientious observers, in order that the errors they may be found to contain may be eliminated, their imperfections removed, the results to which they legitimately lead enlarged, and, in this manner, "the positive knowledge of the phenomena of malarial fever, and of all fevers, established by observation, experiment, and reason." D. F. C.

BIBLIOGRAPHICAL NOTICES.

ART. XVIII. *Reports of American Institutions for the Insane.*

1. *Of the Maine Insane Hospital, for the year* 1859.
2. *Of the Vermont Asylum, for the fiscal year* 1858–9.
3. *Of the Massachusetts State Hospital, Worcester; fiscal year* 1858–9.
4. *Of the Massachusetts State Hospital, Taunton; fiscal year* 1858–9.
5. *Of the Massachusetts State Hospital, Northampton; fiscal year* 1858–9.
6. *Of the Butler Hospital, for the year* 1859.
7. *Of the State Hospital, Pennsylvania, for the year* 1859.
8. *Of the Western Pennsylvania Hospital, for the year* 1859.
9. *Of the Western Asylum, Virginia; fiscal years* 1857–8, *and* 1858–9.

1. THE operations of the *Maine Insane Hospital* for the year terminating with the 30th of November, 1859, furnish the following results:—

	Men.	Women.	Total.
Patients at the beginning of the year . .	117	91	208
Admitted in course of the year	81	68	149
Whole number	198	159	357
Discharged, including deaths	71	49	120
Remaining at the end of the year . . .	127[1]	110[1]	237
Of those discharged, there were cured . .	38	20	58
Died	12	5	17

Died of phthisis pulmonalis, 7; chronic mania and old age, 2; dysentery, 2; exhaustion following acute mania, 1; marasmus, 1; epilepsy, 1; serous apoplexy, 1; dropsy, 1; *paralysie générale*, 1.

The number of patients has exceeded that of any former year, and never has there been a greater immunity from illness or serious accidents. The hospital has been in operation more than nineteen years, and the number of patients received is 2,127. Of these, 871 have been discharged recovered, and 267 have died. Only two suicides have occurred among this mass of upwards of two thousand patients—an exemption from casualties of this kind as gratifying as it is remarkable. "The last death by suicide was in the spring of 1845, since which there have been 190 patients whose symptoms were decidedly suicidal, and many of whom attempted the act at several different times."

The number of patients in the course of the year has gradually increased from 129 in 1840–41, to 357 in 1858–59. The male department is now crowded, and that of the females nearly full. Under these circumstances, Dr. Harlow says, "some immediate action should be had, either to enlarge the present building, or to erect a new hospital in some other section of the State." He recommends the latter, alleging the sufficient reasons, "two hundred and fifty diseased persons, congregated together, are as many as one man ought to have in charge. Every superintendent should know each patient and see him daily, which he could not do if the number was much greater." As another argument in favour of increased hospital provisions, he asserts that "there are, at this time, a large number of insane persons confined at the various almshouses in our State, many of whom are chained or caged, and in the most loathsome condition. Benevolent and sympathizing humanity calls for their release."

The patients' library of this hospital is one of the most extensive and valuable

[1] The report says 129 and 108; but those are not the numbers deduced from the preceding figures. We cannot, of course, tell where the error lies.

of its kind in the country. It contains upwards of two thousand volumes. Thirty newspapers are sent to the hospital gratuitously.

Among the improvements of the year are the erection of a new barn, 80 feet by 42, and the introduction of gas for the lighting of the hospital. "An increased quietness is distinctly observed among the patients, since the introduction of this new light."

2. The statistics of the *Vermont Asylum for the Insane*, for the fiscal year ending August 1, 1859, are as follows:—

	Men.	Women.	Total.
Patients at the beginning of the year	207	208	415
Admitted in the course of the year	80	76	156
Whole number	287	284	571
Discharged, including deaths	75	65	140
Remaining at the close of the year	212	219	431
Of those discharged, there were cured			67
Died			40

Since the asylum was opened, 3,025 patients have been received, and 1,433 discharged recovered. The whole number of deaths is not mentioned.

After portraying the injurious effects, upon curable patients, of visits from their relatives and friends, Dr. Rockwell makes some exceptions to the general rule. "Occasionally," says he, "there is a case wherein the patient seriously believes that some of his dearest friends are dead, or that he is guilty of some heinous misconduct. In such instances, and at a proper time, an interview with his friend may correct these mistakes, and prove beneficial. In such cases we never fail to advise the friends, and encourage a visit from them."

In reference to the means of furnishing manual labour to the patients, it is stated that the workshop has been enlarged, and that there is "a considerable number of mechanics who are agreeably and profitably employed in the business they had been accustomed to before they were insane. * * * They not only perform much useful labour for the asylum, but also execute some curious workmanship for the entertainment of themselves and others."

A new barn has been erected, and gas introduced for lighting the building, during the past year.

3. The general features of the medical history of the *Massachusetts State Lunatic Hospital*, at Worcester, for the official year ending with the 30th of September, 1859, are presented in the subjoined table:—

	Men.	Women.	Total.
Patients at the beginning of the year	141	160	301
Admitted in course of the year	106	94	200
Whole number	247	254	501
Discharged, including deaths	95	89	184
Remaining at the close of the year	152	165	317
Of those discharged, there were cured	43	46	89
Died	20	10	30

Causes of Death.—Epilepsy, 6; consumption, 5; marasmus, 4; palsy, 4; exhaustion, 3; old age, 2; apoplexy, asthma, pulmonary gangrene, maniacal exhaustion, suicide, and typhomania, 1 each.

As will be perceived, "two patients only have died during the year from any form of acute disease. They were females, and suffering from attacks of recent mania. Both were brought to the hospital in an exhausted condition, and died in two weeks after admission."

Of the 200 patients admitted, 7 men and 13 women had suicidal mania, and 4 men and 3 women homicidal mania.

Since the opening of the hospital, January 18, 1833, the number of patients received is 5,976—men, 2,933; women, 3,043. Discharged, cured, 2,747—men, 1,307; women, 1,440. Died, 696—men, 356; women, 340.

As a matter of psychological interest we extract a description of the delusions

of some of the patients admitted in the course of the last year. It is to be regretted that Dr. Bemis has not informed us in what manner he treats such patients as the one first mentioned, and the one who believes himself to be Napoleon the Great. Does he recognize these imaginary titles, and address the patients by them, or permit the attendants so to address them? or, on the contrary, does he, when circumstances require any allusion to the subject, treat those titles as delusions, and persist in addressing the patients by their appropriate names? We conscientiously believe that the physician who pursues the former course becomes himself in part responsible for the persistence of the delusion, and the permanence of the patient's insanity.

"One of our females firmly believes she is the widow of the Duke of Wellington, and dislikes to answer to any other name or title than that of the Duchess. Another fancies she is filled with gunpowder, and is in constant dread of being set on fire and blown up. A third thinks she has some other person's head, and fears the rightful owner may call for it; while a fourth believes she has swallowed the sun.

"One male patient believes he is Napoleon the Great, and is often violent if addressed by other patients in his proper name. A second thinks he is a spirit living in the next world, and is surrounded by spirits who control his actions, and cause all his troubles. A third is filled with devils, who look out through him and who torment him in a great variety of ways, rendering his life inexpressibly miserable. A fourth does not labour with edged tools for fear that some being will descend upon and 'cut him up.' Another always speaks of himself as the Son of God.

"In strong contrast to these and others like them, are two patients, one male and one female, who, with constant exhibitions of violence, destructiveness, and filth, have discovered no delusion, but have been clear and coherent amid all their noise and madness."

The two cases last-mentioned are particularly interesting in a medico-legal point of view. They are fresh examples of some of the difficulties which prevent the attainment of a clear, lucid, definite, and exact system of the medical jurisprudence of insanity.

We have rarely, if ever, met with so graphic a description of the general physiognomy of melancholia, as well as the characteristics of the mental disorder, as that which is contained in this report. For this reason we present it to our readers.

"Thirty-six patients were admitted whose insanity was of the type of melancholia. Perhaps no class of patients suffer so keenly as those whose disease is of this form. Their lean, slender, stooping persons; pale, sallow features; brown, dry, scaly skins; reddened noses; hollow, changeless expression; uneasy, suspicious glances; all speak of their gloomy fears and forebodings of evil. Fear with all its terrors hangs over them; one believes that, given up to the power of the devil, he shall be led to take the life of his wife or child, and flies from them to seek an asylum where he may be controlled and his family left in safety. Again, he fears he has in some mysterious manner committed a heinous crime, and the wrath of God rests upon him.

"Another sees all about him persons bent upon his ruin and destruction. To-day he is to suffer; his time is come; his friends have already been most cruelly treated, and he can look for nothing better.

"Another accuses herself of having committed the greatest of crimes, and justly brought upon her the vengeance of heaven. Now she prefers instant death to the agony of uncertainty, and again she prays for delay in the execution of a sentence from which there is no escape.

"This class of patients know well what is done for them, and understand perfectly all that is said; yet kindness and attention, argument and persuasion, always fail to convince them. They can reason clearly enough, and appreciate whatever is brought before them. But they are so changed; all their thoughts, feelings, and affections are changed. Their habits and mode of life are changed. Their relation to external objects is changed. No feeling of security can triumph over their fears. No argument can subdue their prejudices. No pleasure can divert their apprehension of evil."

The insane are so generally misunderstood, the real nature of the disease is so generally misapprehended, that we cannot forbear to quote the following remarks, to the truthfulness of which there is no doubt we might obtain the testimony of every physician who has any considerable experience in the treatment of mental aberration:—

"The insane always appreciate that kindness of heart and that benevolence of feeling which will interest itself in their unreal and extravagant miseries, and is ever solicitous to relieve their suffering. They are keenly alive to that benevolence which will take them by the hand and lift them up, and be to them a friend and a companion. They always look for one in whom are the qualities of mutual forbearance and fellow-feeling.

"It is true that kindness of heart may do harm by giving way to unreasonable demands and indulging vicious propensities. It may even become so passive as to strengthen the delusions which are characteristic of the disease. But when mingled with a pure devotion to duty and a keen perception of right, it becomes the most powerful means in the care and treatment of the insane."

Dr. Bemis has a thorough conviction of the importance of manual labour, as a hygienic and curative agent in the treatment of the insane. He candidly acknowledges, in allusion to the hospital under his charge, that "the great evil in this, as in many similar institutions, is idleness."

For the purpose of more generally applying this restorative means to the patients, "more extensive farming operations than have hitherto been carried on will present, in a great variety and abundance, opportunity and inducement to engage in that best of all occupations. Increased facilities for various kinds of labour in the workshops will also afford to many agreeable employment, and occupy and strengthen their mental faculties without irritation or fatigue."

A broader scope is given to the moral treatment by the improvements mentioned below.

"The reading and billiard-rooms, suggested in the report of last year, are now completed and furnished on both sides of the house.

Similar rooms, not so large, and with the substitution of a bagatelle board instead of a billiard table, have been prepared in the women's department.

In the notice of a former report it was mentioned that the modern system of forced ventilation had been adopted at this hospital. Its effects are thus stated:—

"In a hygienic point of view, the results of our system of ventilation cannot be overstated. Patients who formerly were violent, filthy, and disgusting, are now tranquil and tidy. Those who were uniformly pale, feeble, and sickly, are now improved in health and appearance. The standard of general health has been greatly elevated since the introduction of the present plan of warming and ventilating the house."

4. The report of the *State Lunatic Hospital*, at Taunton, Mass., for the fiscal year ending with the 30th of September, 1859, contains elaborate tables of information in regard to the patients of that institution. We extract, as usual, the most important items:—

	Men.	Women.	Total.
Patients at the beginning of the year	156	145	301
Admitted in course of the year	122	109	231
Whole number	278	254	532
Discharged, including deaths	113	78	191
Remaining at the end of the year	165	176	341
Of those discharged, there were cured	59	39	98
Died	29	13	42

Died of phthisis, 12; softening of brain, 5; chronic mania, 5; maniacal exhaustion, 4; paralysis, 4; dysentery, 3; diarrhœa, 3; marasmus, 2; epilepsy, disease of heart, inanition, and suicide, 1 each.

"Insanity," says Dr. Choate, "operates in shortening life in several ways; first, by diminishing the nervous or vital energy; secondly, by developing disease in the various vital organs; and thirdly, by its influence in masking or

concealing any disorder which may accidentally supervene, until it assumes a serious form. To the operation of the one or the other of these influences may be ascribed the fatal termination of most of the cases of disease in lunatic hospitals."

In the consideration of the influence of locality, as a generative cause of the disorder, it is said that "in the rural districts the prevailing habits and passions are less exciting and turbulent than in the large towns. Domestic troubles and the passions common to human nature in all places, love, anger, disappointment, and grief, are the predominant moral causes of insanity. To these in the cities are added greater depravation of manners, habits of vicious indulgence of all kinds, the strife of ambition and competition and speculation, late hours, reverses of fortune, and in all respects more excitement; and consequently in the latter, insanity prevails more extensively. The four counties in this district, which contain all the large towns and cities, have sent us this year ninety-two per cent. of the whole number."

The case given below furnishes a good illustration of the effect of hospital treatment in mitigating the symptoms and correcting the habits, in cases of incurable mental disorder, as well as of the mistakes which are but too frequently made by the friends of the patients. There is abundant experience of this kind at every institution for the insane.

"A man of seventy years of age, after a slight attack of paralysis, exhibits symptoms of a weakened intellect. He soon becomes uncomfortable in his family, wilful, unwilling to listen to advice or remonstrance, gets up at night and wanders about the neighbourhood, and finally, among other freaks, refuses obstinately to wear his clothing. He comes to the hospital, and in a short time, by the force of example, by constant care and attention, by the restraining influences of the place, by the absence of all sources of irritation, by the strict enforcement of regularity in all his habits of life, and by the operation of the change to a strange scene and strange companions, he becomes perfectly mild and manageable, and never thinks of taking off his clothing, or of walking about at night, but conducts himself in all respects with propriety and decorum. Still his conversation indicates that the disease is not removed. In this condition he is found by his friends at their first visit. Mistaking the effects of hospital treatment for permanent improvement, they immediately consider the matter of his removal; and refusing to give credence to the statement that a short residence at home will bring back his former condition, they soon arrive at the conclusion that their duty to him requires them to make the trial. In the case which has called forth these remarks, the patient was brought back in ten days, with the statement that on the second day after his return home he tore off his clothing and conducted, in all respects, as before his first admission here. From the time of his recommitment his deportment has been quiet and gentlemanly; his habits in all respects those of a rational being, and he has conformed willingly to all the regulations of the institution."

In common with many other subjects, that of the use of mechanical appliances to the body of the patient for the purpose of curbing the violence of mania, or restraining the propensity to suicide, is susceptible of both affirmative and negative arguments. At the present time, when, without having yielded the position that such restraining apparatus is sometimes both justifiable and useful, the tendency among the superintendents of American hospitals is gradually and constantly toward their abandonment, or, at least, toward their minimum of wholesome use, it is proper that Dr. Choate's view should be presented. Beginning with the generally recognized proposition that at all institutions for the insane there is a class of patients requiring *some* restraining treatment, he proceeds:—

"The only question is, in what form can this be applied without injury, or rather with positive benefit to the patient. And when we hear that in this or that hospital no mechanical restraint of any kind is made use of, the inquiry at once comes up, is the treatment which is substituted for it equally safe, equally judicious, and not liable to even greater objections than the mode of treatment which is avoided? For the restraint of violent, destructive, and dangerous patients, four methods of restraining treatment are known and practised. They

are first, seclusion in strong rooms; secondly, mechanical restraint; thirdly, the hands of attendants; and lastly, what are called depressing remedies. The question is, which shall we use? In most of these cases, which fortunately are few in number, I prefer to use mechanical restraint. On the male side of the house this has been used a very few times in the course of the year, and for short periods, many weeks together often passing without any man being restrained in any way. On the female side it has been used somewhat more frequently. The only form in use in this hospital is the camisole, which consists of an ordinary waist, made of some strong materials, with long sleeves sewed up at the ends. This is in all respects comfortable to the patient, and effectually prevents the success of attempts at self-destruction, and to denude the person. If properly applied in cases judiciously selected, I can see no valid objection to its use."

He then gives his opinion of the substitutes for mechanical means. *Seclusion in strong rooms* he believes to be "in every respect injurious; that it increases the habits of destructiveness and violence, and leads almost inevitably to solitary vice and filthy practices, or, if these are already learned, confirms and strengthens them. * * * To *the hands of attendants* there are equally weighty objections. To control by opposing muscle to muscle, with the insane as with the sane, only arouses more obstinate resistance, and increases the excitement." The *use of depressing remedies*—antimony and the like—he thinks "a practice in the highest degree injurious, unsafe, and liable to the most flagrant abuses." He believes it injurious because the disease is asthenic, consequently contra-indicating the application of such remedies; and liable to abuse, from the fact that they may be so easily and secretly administered. The whole tenor of his argument is very similar to that of Samuel Tuke, in the introduction to his translation of Dr. Jacobi's work on hospitals, published nearly twenty years ago. By this remark we intend no imputation or intimation that it was borrowed. We simply wish to show that, nearly at the origin of the non-restraint system, an acute and sagacious observer of the insane met the scheme with nearly all the arguments which can even now be alleged against it. They are such as it would seem cannot fail to impress themselves upon the mind of every experienced alienist; and, so far as we know, they have never been satisfactorily answered.

5. The Massachusetts *State Lunatic Hospital*, at Northampton, was erected under all the light which has been thrown upon the subject of hospital architecture in the course of the last twenty-five years. It has been tested by the experience of more than a year, and its superintendent, Dr. Prince, asserts that "in the convenience of its general arrangements, and the adaptation of its various parts to their purposes, it is probably second to no other."

	Men.	Women.	Total.
Patients in the hospital, Sept. 30, 1858	93	127	220
Admitted in course of the year	45	48	93
Whole number	138	175	313
Discharged, including deaths	40	40	80
Remaining, Sept. 30, 1859	98	135	233
Of those discharged, there were cured	18	15	33
Died	7	12	19

Causes of Death.—Phthisis, 9; maniacal exhaustion, 7; epilepsy, disease of the heart, and anæmia, 1 each.

"Dysentery and fever of the severer forms have been strangers to our halls, and the few cases of acute disease which have come under treatment have yielded readily to remedies. There has been no death from acute disease originating in the house. The healthfulness of the location; our exposure to purifying winds; the dryness of the soil; the efficient system of ventilation and drainage, and the strict attention paid to the laws of health, have preserved them from those diseases to which the mental and bodily condition of a great majority of the patients would naturally make them susceptible."

It appears from the report that progress has been made in the introduction into this new institution of the various means which modern experience has shown to be instrumental in forming a proper plan of hygienic and curative treatment.

6. The general results at the *Butler Hospital for the Insane*, in 1859, were as follows:—

	Men.	Women.	Total.
Patients in the hospital, January 1	67	68	135
Admitted in the course of the year	30	12	42
Whole number	97	80	177
Discharged, including deaths	29	13	42
Remaining, December 31	68	67	135
Of those discharged there were cured			14
Died			10
Aggregate of patients, 1848 to 1859, inclusive			904
Discharged			768
Recovered			296
Died			180

According to his usual practice, Dr. Ray gives but few statistics in his report, and scarcely any of the details which it is customary among the superintendents of most other institutions of the kind to furnish. The report is chiefly occupied by an essay upon the influence upon mental health of that principle in human nature which "has long been recognized under the names of sympathy, and propensity to imitation." It is an interesting article, well worthy of the perusal of every physician. We will endeavour to impart as good an idea of it as our limits will permit.

He says of this principle: "It has been regarded—too much, perhaps—as a supplementary element in our mental constitution, manifesting itself in curious and anomalous phenomena, rather than as an all-pervading, indispensable principle, without which the great ends of our being would utterly fail. It needs no profound knowledge of the springs of human action to perceive that every man's daily experience reveals, in some way or other, the operation of this law of our nature. Indeed it can hardly be questioned that in populous communities it determines, more than anything else, not only those great social movements which possess an historical importance, but also the sentiments and impulses which, for good or for ill, shape the views and conduct of the individual. Independent, self-originating movement is, probably, a far rarer thing than that which springs, more or less directly, from some outward and distant source. The character of the latter, in any individual, must obviously be determined, therefore, by the character of the movements immediately around him. * * *

"In looking for the orign of insanity, we are apt to confine our attention to the class of influences which lie near at hand and directly before our face, and fail to discern those agencies which, though more remote and obscure, may be none the less efficient. The bereavement or misfortune which apparently drove reason from her throne may have had less to do with this result than the habitual train of thought and emotion which supplies the mind with no additional power, but rather diminishes its energy by its fruitless activities. True, activity is the law of our nature, but it is not necessarily promotive of mental health; for there is a kind of activity which, while it produces agreeable sensations, leads to enfeeblement and disease. And it is precisely because these sensations are agreeable that this kind of activity is far more common than that whose results may be, on the whole, more salutary and satisfactory.

"Now, it is in regard to this class of influences that the mind is governed very much by the law of sympathy. The deductions of reason are deliberately wrought out, each man working for himself; while moral movements, even of the deepest character, are propagated with a kind of electric rapidity. Nearly related to this law of sympathy, and perhaps only another form of it, is the propensity to imitate, which is witnessed in every kind of mental temperament and every grade of mental culture. We say and do what others say and do, and often for no other reason. Indeed, so completely is this propensity independent of reason, that it is exercised automatically, and without reference to the quality of the object. Especially is it active among those who are labouring under excessive nervous irritability, or some other abnormal condition of the nervous system. Even muscular movements, which would seem, at first thought, to be

exclusively under the control of the will, are often propagated in this manner with a degree of force and continuance which no effort of the will could reach. We all know how, in a school, the convulsive movements of chorea may be propagated from one child to another, and how the example of a stammerer is followed by many others. In the history of those great awakenings which occurred in the Western States in the early part of the present century this phenomenon appears on the grandest scale. * * * During the twelfth, thirteenth, and fourteenth centuries this class of phenomena prevailed epidemically in Europe, and large numbers of people were affected. In most of those cases the bodily agitation was accompanied by some degree of mental disorder, equally independent of the will, and in some instances predominating over the bodily affection.

"I do not say that mania, in its most common forms, is ever propagated in this manner, although it might be said with some show of support; but there can be no question that the preliminary aberrations are very much under the control of this law. The same may be said, especially, of other mental affections, which, though they do not pass under the name of insanity, certainly indicate an abnormal, if not a morbid, condition of the brain. The epidemical character of suicide, depending solely on this propensity to imitate, has been often observed. At the Hôtel des Invalides, in Paris, a few years ago, a soldier was found one day hanging by the neck to a post, and within a short time twelve others hanged themselves to the same post. When the post was removed, this strange epidemic ceased. A volume would scarcely contain the accounts that might be gathered of epidemical suicide. Even acts of homicide have been known to spring from the impression made upon the mind by hearing of other similar acts. * * *

"In every community there are multitudes ready to receive impressions that will, more or less seriously, derange their mental health. They are marked by no peculiarities; they are supposed, perhaps, to be perfectly straight and sound; and when the disaster comes, it seems like thunder from a cloudless sky. It is this latent susceptibility to mental disorder which often renders the operation of the law of sympathy so pernicious, and converts an agency intended only to enlarge the sphere of our enjoyment into an instrument of mischief and woe.

"The slightest examination of this our modern life will show us a host of agencies belonging to the ordinary routine which, by means of this law of sympathy and propensity to imitation, produce an unhealthy tone of feeling, which not only deranges the proper order and balance of the moral sentiments, but often terminates, at last, either in unequivocal disease, or in conduct where the element of moral depravity is mingled in some uncertain proportion with that of cerebral disorder and disease. In no age of the world have these agencies been so effective or so numerous as at the present. Far above and beyond all others is that of the press, whose power, during the last sixty years, has been extending at an unexampled rate. There is not a single phasis of human passion—not a single combination of its various elements—not a single development of its slumbering activities—not a single abnormal deviation from its ordinary channels—not a single manifestation of its effects on actual life, which is not displayed by the public press in the strongest colours which an ambitious rhetoric can give it. * * * The columns of a single newspaper, without exaggeration, it may be said contain more materials for stirring the sympathies of men, for good or for evil, than the unwritten lives of countless multitudes. They occupy the leisure moments of thousands, which would otherwise be given to listless rest, and furnish inexhaustible materials for thought or emotion—the only kind, perhaps, which they ever obtain. * * * A murder or a suicide, a breach of trust or an audacious robbery, committed in the obscurest corner of the land, is proclaimed to all the world. The details of a disgusting criminal trial, exposing the darkest aspects of our nature, find an audience that no court-room less than a hemisphere could hold; and a tale of railroad or steamboat disaster stirs the blood of the Eastern lumberman in his camp, and of the California gold-hunter in his digging, even before the coroner's jury has rendered the usual verdict, 'nobody to blame.' The appeals of an aspiring demagogue, the debates of an excited convention,

the platform of a political party, the last letter of the last presidential candidate, exercise the minds of millions who, without this agency, would have moved on to their dying hour in happy ignorance of them all.

"It is not every occurrence whose communication to the world can be productive of unmingled good. For reasons just given, no small proportion of those which are thrust upon the reader's attention leave a positively unhealthy impression; and when we consider that besides the multitudes who, in addition to other reading, never pass a day without looking over a newspaper, there is a scarcely smaller number who read nothing else, we may get some faint idea of the magnitude of this result. The details of vice and crime which occupy so large a space in the daily sheet, repeated day after day, familiarize the mind with their hideous features, and thus blunt the edge of its finer sensibilities. The effect of it all is, that the mind not only becomes careless of moral distinctions, but incapable, in some degree, of perceiving them; its relish for the simply good and beautiful and true is lost, and in its place we find an insatiable craving for what will create a strong sensation, and a positive sympathy, perhaps, with wrong and wrongdoers. By a well-known law of the animal economy, excessive activity of a function leads, at last, to a morbid condition of the organ; and thus it is that this kind of mental activity becomes a prolific source of cerebral disorder; not of the more palpable forms—such as inflammation or softening—but of a degree of irritability or abnormal erythism which often terminates in overt disease.

"The operation of the principle in question is clearly exemplified in the prevalence of suicide, as I have already intimated. * * * The propensity to homicide is often, unquestionably, propagated in the same way. In Paris, some thirty years ago, a young woman murdered a neighbour's child. The extraordinary circumstances of the act, and the vivid discussions which it provoked among medical men, gave it an unusual degree of publicity, and awakened an unusual interest in the public mind. At a session of the Academy of Medicine, Esquirol stated that within two months after this event there came to his knowledge six instances of attempted homicide, among persons previously correct and beyond suspicion, led to it, according to their own statement, by reading or hearing the details of this case. Several other members, on the same occasion, bore similar testimony touching the effect of that example. This is not an insulated fact. It happened to have been observed by men who understood its full significance, and therein alone was it peculiar or exceptional.

The correctness of these views may not be readily recognized by all; but let it not be supposed, for that reason, that we are fighting with shadows. The impression made upon the mind by surrounding influences is, in a great degree, a matter of temperament and culture, and therefore nothing can be more different than the impression thus made on different individuals under circumstances apparently similar. * * * An event scarcely noticed by one, is regarded by another with the deepest concern. An occurrence which to one suggests only matter of curious speculation, in another touches the inmost springs of emotion. A popular movement which is viewed with pity and disgust by one class of minds, awakens the sympathies of another, and bears them along, willing captives, in its irresistible course. Hence it is that persons of a certain culture and moral temper find it difficult to conceive how the sheet, whose contents they scan with more or less indifference, can be so potent an instrument of agitation to any description of readers. * * *

"The tales of fiction, too, which abound in the newspaper press, often appeal to the coarsest sentiments of our nature, and are prized solely for the thrilling sensations which they excite. Nobody can suppose that such sensations help one to accomplish the true ends of living; and if so, their effect must necessarily be pernicious and unhealthy.

"Far be it from me to lay the blame of all this mischief at the door of those who manage the newspaper press. * * * The fault really lies in the public taste which craves and demands such reading; and the true remedy consists, not in blaming the people connected with the press, or addressing to them philosophical reflections on the operations of the mind, but in refining and elevating

the public taste, by improving our methods of education, and multiplying the means and appliances of a higher and sounder cultivation.

"Among the mental exercises characteristic of our day and generation, which are unfavourable to the mental health, it would be something like acting the play with the part of Hamlet left out, were we to omit all mention of one scarcely secondary in importance to that we have been considering. Never before did so large a proportion of the current literature consist of works of imagination, and never before did they, as a class, display so much ability and artistic skill. * * * Novels are now read by every description of persons, and by many who read nothing else. * * *

"Generally speaking, there can be no question that excessive indulgence in novel-reading necessarily enervates the mind, and diminishes its power of endurance. In other departments of literature, such as biography and history, the mental powers are more or less exercised by the ideas which they convey. Facts are stored up in the memory, hints are obtained for the further pursuit of knowledge, judgments are formed respecting character and actions, original thoughts are elicited, a spirit of investigation is excited, and, more than all, life is viewed as it really has been and must be lived. A mind thus furnished and disciplined is provided with a fund of reserved power to fall back upon when assailed by adverse forces, which all of us, in some shape or other, at some time or other, must expect to encounter. In novel-reading, on the contrary, the mind passively contemplates the scenes that are brought before it, and which, being chiefly addressed to the passions and emotions, naturally please, without the necessity of effort or preparation. Of late years a class of books has arisen, the sole object of which is to stir the feelings, not by ingenious plots—not by touching the finer cords of the heart, and skilfully unfolding the springs of action—not by arousing our sympathies for unadulterated, unsophisticated goodness, truth, and beauty, for that would assimilate them to the immortal productions of Shakspeare and Scott—but by coarse exaggerations of every sentiment, by investing every scene in glaring colours, and, in short, by every possible form of unnatural excitement. In all this there is little or no addition to one's stock of knowledge, no element of mental strength is evolved, and no one is better prepared by it for encountering the stern realities of life. The sickly sentimentality which craves this kind of stimulus is as different from the sensibility of a well-ordered mind as the crimson flush of disease from the ruddy glow of high health. A mind that seeks its nutriment chiefly in books of this description is closed against the genial influences that flow from real joy and sorrow, and from all the beauty and heroism of common life. A refined selfishness is apt to prevail over every better feeling; and when the evil day comes, the higher sentiments which bind us to our fellow-men by all the ties of benevolence and justice and veneration furnish no support nor consolation. Let me not be misunderstood. I do not say that no one can read a novel without endangering the health of his mind, for, under certain qualifications, nothing could be further from producing such a result than this kind of recreation. Who can number the hours of discomfort and sorrow which have been relieved of half their burden by the delightful fictions of Scott? The specific doctrine I would inculcate is, that the excessive indulgence in novel-reading, which is a characteristic of our times, is chargeable with many of the mental irregularities that prevail among us in a degree unknown at any former period."

7. The report of 1860 of the *State Lunatic Hospital* of Pennsylvania is unusually brief, the medical portion of it comprehending little else than the customary tabular information.

	Men.	Women.	Total.
Patients in the hospital, January 1st . . .	150	117	267
Admitted in the course of the year . . .	83	60	143
Whole number	233	177	410
Discharged, including deaths	84	52	136
Remaining, December 31st	149	125	274
Of those discharged, there were cured . . .	18	13	31
Died	12	11	23

"The causes of death were, in three cases, epilepsy; in thirteen cases, chronic mania; in one case, consumption; in one case, apoplexy; and in five cases, disease of the brain."

"The lectures and magic lantern exhibitions have been regularly continued during three evenings of the week, from October to April, and furnish to all who may feel inclined to attend them, an agreeable means of spending the long winter evenings."

On the night of the 12th of May, the barn belonging to the hospital was destroyed by fire, together with several horses and most of the farming implements. It is supposed that the conflagration was the work of an incendiary—a patient who, about two years before, had eloped from the hospital. The barn of the poor-house, in Harrisburg, at which, also, the man had formerly been placed, was discovered to be on fire about three hours after that at the hospital. The man is in prison.

A new barn, 102 feet in length by 56 in width, internally arranged in the most commodious and convenient manner, has been erected.

8. Señor Ramon De La Sagra, a Spanish gentleman who had held offices of considerable importance under the government of his native country, made a tour through the United States about twenty-five years ago, and after his return published an account of his travels. The book was the work of a utilitarian, a *savant*, a philanthropist. It was translated into French, and had an extensive circulation on the continent of Europe. It contains expressions of the highest admiration of the benevolent institutions of this country, and more especially of their manner of growth out of the philanthropy of the people. Accustomed as he was to seeing institutions of the kind originate directly from the government alone, it was a new idea to him to behold them springing from the enterprise and humanity of private citizens, and it appears that he derived from it a more exalted opinion of his fellow-men. Nor was he backward in recognizing the propriety, not to say the necessity, of the custom, that when individuals, or private corporations, have borne the *onus* of establishing an institution, and have fully demonstrated its importance to the welfare of the citizens at large, the State government lends its aid, and gives to that institution a scope and power commensurate with the needs of the people.

These remarks have been suggested by the report now before us—that of the *Western Pennsylvania Hospital*. The origin and progress of that institution have been such as those which in other cases won the encomiums of La Sagra. May the legislature of Pennsylvania not neglect the complete fulfilment of its duties for the full accomplishment of the praiseworthy work!

The new building, 345 feet in length, and consisting of a central portion, with a wing upon either side, was commenced in May, 1859, and before the work was suspended for the winter, the walls were erected "to the height of the first or main story."

	Men.	Women.	Total.
Patients in hospital, January 1, 1859	52	38	90
Admitted in course of the year	71	37	108
Whole number	123	75	198
Discharged, including deaths	62	36	98
Remaining, January 1, 1860	61	39	100
Of those discharged, there were cured	28	16	44
Died	7	3	10

Died from tubercular consumption, 4; epilepsy, 2; exhaustion, 2; "one from convulsions (and) one from puerpera."

The report of Dr. Reid is mostly occupied by an exposition of the importance of treating insanity in its early stages, supporting his own views by quotations from various authorities upon the subject.

We invite Dr. Reid's attention to the suggested usefulness of adding to his list of tables, one showing the ages of the patients at the time of first attack by insanity.

9. The report of the *Western Lunatic Asylum*, of the State of Virginia, includes a period of two official years.

	Men.	Women.	Total.
Patients in asylum, October 1, 1857 . . .	228	161	389
Admitted in course of two years . . .	52	50	102
Whole number	280	211	491
Discharged, including deaths	61	58	119
Remaining, September 30, 1859	219	153	372
Of those discharged, there were cured . .	29	33	62
Died	23	17	40

Causes of Death.—Marasmus, 12; pulmonary consumption, 9; epilepsy, 5; cerebral disease, 3; typhoid fever, 2; diarrhœa, chronic diarrhœa, colic, ascites, general dropsy, dyspepsia, paralysis, apoplexy, and suicide, 1 each.

Among the patients is one who is blind, one a deaf mute, and one a blind deaf mute.

Dr. Stribling says—and his long devotion to the care of the insane gives great value to his opinion—"Every year's experience but enhances our estimate as to the value of occupation. It should be *the great item* in any system designed to promote the health and comfort of those who require the appliances of an asylum. The farm, garden, grounds, workshops, &c., afford congenial employment to many of our male patients. In sewing, knitting, spinning, house-work, &c., many of the females are employed. Those who thus engage most willingly and systematically, are uniformly best contented, and enjoy a condition of mental and physical health and comfort far more desirable than others, who restrict themselves merely to reading and to amusements."

A long and large list of garments, bedding, and other articles of domestic use, which have been made at the asylum in the course of the two years, furnishes satisfactory evidence of the industry of the female patients.

The library has been increased, and pictures hung upon the walls of the galleries and the rooms of the patients. "A billiard-saloon has just been completed, in which is an excellent table with marble board."

The following remarks upon the use of the nose-tube will be read with interest:—

"Several years since, Dr. William Hamilton, then and now a valued assistant in this institution, suggested that we substitute for other modes (of compulsory injection of food to the stomach) the nose-tube. This had been tested elsewhere, but the reports as to its utility were few, and not encouraging. In so far as we knew (and still believe), it had failed to receive the indorsement of any one in charge of an institution for the insane in the United States.

"For more than three years past no other means have been allowed here for forced alimentation; and as a matter of duty, I can but record, as the result of this experience, my unqualified preference for it over any other appliance yet suggested. As with the stomach-tube and pump, the spoon, &c., it is important that he who officiates understands the anatomy of the parts, and be cautious as well as skilful. In this institution none other than a medical officer ever undertakes to force food upon a patient."

The number of patients at the asylum is constantly such that a large number of applicants are necessarily rejected. "Very many," says Dr. Stribling, "remain in the jails and elsewhere, whose wretched condition calls for sympathy and aid—such aid, indeed, as can only be afforded by the General Assembly of our State. At the last session of the legislature a proceeding was *initiated* for the establishment of a third asylum. Those to whom, under the law, its interests were confided, will of course report fully in regard thereto. I sincerely trust that report will be such as not merely to justify, but, in view of public sentiment, to require the approaching legislature to appropriate ample means with which to complete the good work."

P. E.

ART. XIX.—*On Criminal Abortion in America.* By HORATIO R. STORER, M. D., of Boston, etc. Philadelphia: J. B. Lippincott & Co., 1860. 8vo. pp. 107.

IN our review of the twelfth volume of the *Transactions of the American Medical Association*, contained in the present number, will be found a notice of the able report made by Dr. Storer and others on the subject of criminal abortion. In this report reference is made to certain evidence that had been collected by the committee, in proof of the leading positions laid down by them as to the criminality of abortion, its frequency, and the causes of its prevalence. The evidence in question was published originally in the *North American Medico-Chirurgical Review*, and is now issued in a separate form for more general circulation.

The investigation into which Dr. Storer, to whom is to be credited the collection and arrangement of the evidence referred to, has entered, is full, able, and satisfactory, and well worthy the serious consideration not only of every member of the medical profession who has a just appreciation of the important mission he has undertaken, but of every legislator, every expounder and administrator of the laws—of every individual member of the community, in fine, who, while he defends his own individual rights, would extend an equal defence to the rights of others, even the humblest and most insignificant of the human family, from the moment of conception until the period when they are called, by that fiat within whose scope all are included, to leave this for another state of existence.

Dr. Storer has established most conclusively, and upon data the validity and sufficiency of which will scarcely be denied, the extreme criminality of abortion in every case in which it is procured intentionally and for the sole object of destroying the life of the fœtus—without such destruction being necessitated by a due regard for the safety of the mother, or by any other equally imperative cause—and in cases where, had not the product of conception been thus prematurely got rid of, it would doubtless have survived to the termination of the full period of utero-gestation, and been then born alive.

The more difficult questions of the frequency of the crime, and its rapid increase in our midst, are cautiously and skilfully handled. Although the data within our reach, by which the extent to which criminal abortion has been and is now practised, are too imperfect and uncertain to lead to any other than an approximate result, still, a tolerably correct judgment in respect to both these particulars may be formed by a careful examination of the evidence derivable from the comparative increase of population; the published records of still-births; the number of accusations and trials for abortion; the published lists of immediate maternal deaths; the comparative size of families now and formerly; the experience of physicians, either from direct applications for abortion, or the frequent evidence he meets with in his practice of forced abortion having occurred recently or at some previous period, more or less remote; and, finally, from the pecuniary success of known abortionists, and from the very great and constantly increasing demand for abortion-producing nostrums, rendering the traffic in them throughout the country a common and highly profitable occupation. From these various sources a mass of evidence may be deduced sufficient to compel all, who will take the trouble to examine it, to the painful conviction that the practice of criminal abortion is carried on among us to a fearful extent, and that it is every year rapidly on the increase; that, notwithstanding our high pretensions to enlightenment, our wide-extending philanthropy, our vaunted zeal for the cause of "pure and undefiled religion," we are perfectly willing to tolerate—if we do not, in fact, countenance and encourage—in our very midst a crime from which, when perpetrated from the same motives and for the same ends, we should imagine that all save the most debased and ruthless savage would shrink with disgust.

The causes assigned by Dr. S. for this general turpitude are numerous and

diversified. Among the chief of them he enumerates the low *morale* of the community as regards the enormity of the crime; the ease with which its true character, in individual cases, may be concealed; the unwillingness of its victims to give testimony that would also criminate themselves; the possibility of the crime being perpetrated by the pregnant female on herself, without assistance; the ease with which the law, as it now stands, for the prevention of criminal abortion, may be evaded; the lack of proper and efficient judicial preventives, such as legal provisions for registration, against the concealment of births, and against secret interments; the prevalent ignorance of the jurisprudence of obstetric operations in both government officials and medical witnesses; the doctrines of political economists, that the welfare of the labouring classes, and the general prosperity of a community, are impeded by a numerous offspring; and, lastly, the fear of childbirth.

We do not intend to follow Dr. S. in his exposition of the deleterious effects of the practice of abortion upon the health and lives of the females who submit to it; of the evidence by which the occurrence of abortion may be established; the cause of its occurrence, whether natural, accidental, or intentional; and the several circumstances connected with its perpetration, when criminally practised. For a very full and satisfactory examination of all these questions we refer our readers to the essay before us, a careful perusal of every portion of which will be found fruitful in instruction.

Dr. S. refers to the fact that medical men often become the "innocent abettors" of the practice of abortion, by the apparent disregard they exhibit for the sanctity and value of fœtal life, by their frequent recourse to the procurement of premature labour as a means of safety to the mother, or, in place of such procedure, substituting the less justifiable measure of the destruction of the fœtus by craniotomy. In respect to the induction of premature labour, Dr. S., while he admits that cases do occasionally unquestionably occur in which it may be correctly viewed as the sole means by which, while the greatest chance is afforded for the safety of the fœtus, the life of the mother can be preserved. He believes, however, that the operation is seldom required for the sake of the fœtus, and in general only after the commencement of the seventh month of pregnancy. To warrant a resort to it in any case, its necessity must be clearly shown. Even then, however, it should be delayed as long as is consistent with the child's safety; and when practised, it must be by such means as, whilst most efficient, are the least liable to injure the child.

The induction of premature labour is most frequently resorted to in order to avoid the performance of craniotomy after labour has set in. The necessity of craniotomy, unless extreme, can, it is evident, only be known with certainty, before the expiration of pregnancy, from the experience of past labours.

"But here," remarks Dr. S., "too much caution cannot be exercised; the rules of the books and of accepted authorities are not to be blindly followed. Craniotomy at the full time is still too frequently performed; where even it has been suggested by the character of a previous labour, children are often, or might be, born living; where it seems indicated by direct exploration, as ruled even by recent writers, children are sometimes, or might be, born living; where it was formerly thought absolutely essential, the progress of obstetric science has now rendered it often unnecessary."

Other points are referred to, in which physicians are directly interested, as tending, by their apparent disregard of fœtal life, to render themselves innocent abettors of criminal abortion: such as neglect of efforts to prevent miscarriage when threatened, or when it has become an established habit; neglect of well-directed attempts at resuscitating stillborn children where there is the slightest chance of success; the performance of operations of any kind upon a pregnant woman, even toothdrawing, that might be delayed; the careless or unnecessary use of ergot; the relying upon a single and unaided opinion, where not one life only, but two, may be endangered. "Other instances," Dr. S. remarks, "might be adduced; but enough has already been said to prove that the importance of the subject we are considering, and the responsibilities resting upon the profession regarding it, demand, as I have elsewhere suggested, that physicians should possess, should acknowledge, and should govern themselves by an *obste-*

tric code." The necessity of such a code will become the more manifest the more are investigated the several questions pertaining to obstetric jurisprudence.

"Distressing in the retrospect, inconvenient frequently in the present, such a code would undoubtedly prove; but it is demanded of the profession by the progress of our science, by humanity, morality, and religion. Were the facts in the case more generally known, and the existence and sanctity of fœtal life more universally appreciated, it would be also demanded by public opinion.

"We have thus seen that 'the absurd enactments still remaining on the statute-book, the careless indifference with which means are adopted to prevent its occurrence, its increase, and its frequent induction by obstetricians, are all evils which loudly and imperatively call for the closest investigation.'"

After an examination of the legal provisions in existence, more especially in the United States, in reference to the crime of abortion, the causes of the inefficiency of these provisions for its suppression, are noticed; the difficulties they present to the conviction of the parties concerned in its perpetration, the absurd distinctions they create between the condition of the fœtus in the early and the later periods of pregnancy, and the trifling light in which they recognize the practice of abortion. In but few instances is the crime, intrinsically considered, viewed by the law as a heinous one, as an attempt to destroy the life of a child, as deliberate murder; but, under many very loosely defined circumstances, it is held even as a perfectly justifiable act.

The all-important question next presents itself, Can the practice of criminal abortion be entirely, or in any degree, restrained by law? Dr. S. believes that it may be prevented, to a very great extent at least, by judicious and well-executed legal enactments for the registration of births, marriages, and deaths, and against the concealment of births, and secret burials; the establishment, under proper regulations, of foundling hospitals by the different State and municipal governments; the prohibition, under severe penalties, of the sale or dispensing of any drugs popularly known as emmenagogues, excepting upon the prescription of a respectable practitioner of medicine; an entire revision of all the laws bearing upon the subject of criminal abortion, so that the legal definition of the crime may be rendered more clear and positive; the evidence required for the establishment of the guilt of all the parties implicated made to bear directly upon the fact of the act of abortion being intended as well as consummated during any period of pregnancy, and by whatever means, or of its having been attempted in cases of presumed pregnancy, even where pregnancy shall be proved not to have existed; the punishment of the female in whose case criminal abortion has been practised, either as a principal or *particeps criminis;* the fixing of a correct and uniform standard of justification for the practice of necessary abortion; and the making penal the encouragement of criminal abortion by any publication, lecture, advertisement, or announcement, or by the sale or circulation of any such publication.

The essay concludes with some judicious remarks in respect to the duty of the medical profession in the effort to suppress the practice of criminal abortion, in order that no portion of the guilt involved in the practice may rest upon them.

"Enough," says Dr. S., "has already been said to show that there is need of increased vigilance on the part of medical men, lest they themselves become innocent and unintentional abettors of the crime. If the community were made to understand and to feel that marriage, where the parties shrink from its highest responsibilities, is nothing less than legalized prostitution, many would shrink from their present public confession of cowardly, selfish, and sinful lust. If they were taught by the speech and daily practice of their medical attendants that a value attaches to the unborn child, hardly increased by the accident of its birth, they also would be persuaded or compelled to a similar belief in its sanctity, and to a commensurate respect."

"It follows, from the evidence we have adduced, that if it be the duty of the profession to urge upon individuals the truth regarding this crime, it is equally their duty to urge it upon the law, by whose doctrines the people are bound, and upon that people, the community, by whose action the laws are made. And this should be done by us, if we would succeed in suppressing the crime, not by separate action alone, but conjointly, as the profession, grandly representing its

highest claim—the saving of human life. Every step towards this end should be hailed with enthusiasm." * * *

"Too much zeal cannot be shown by physicians in relieving themselves from the weight of responsibility they may have incurred by innocently causing the increased destruction of human life. Let it not be supposed by the public that there is among us, either in theory or practice, any disregard of the unborn child. If such impression have already obtained, from our own negligence, the falsehoods of irregular practitioners, or otherwise, it should at once be removed." * * *

"We should, as a profession, openly and with one accord appeal to the community in words of earnest warning, setting forth the deplorable consequences of criminal abortion—the actual and independent existence, from the moment of conception, of fœtal life. And that the effort should not be one of words merely; we should, as a profession, recommend to the legislative bodies of the land the revision and subsequent enforcement of all laws, statutory or otherwise, pertaining to this crime, that the present slaughter of the innocents may to some extent, at least, be made to cease. For it is 'a thing deserving all hate and detestation, that a man in his very originall, whiles he is formed, whiles he is enlived, should be put to death under the very hands and in the shop of nature.'"

D. F. C.

ART. XX.—*Report on the Smallpox, in the City of Providence, R. I., from January to June*, 1859. By EDWIN M. SNOW, M. D., Superintendent of Health. Providence, 1859.

THE smallpox was introduced into the city of Providence towards the close of the year 1858, by a gentleman who had been on a visit to New York. He was attacked soon after his return with varioloid. He had been vaccinated in childhood, forty-four years previously. The attack was a very mild one, requiring no medical attendance, and as no suspicions were entertained in regard to its character, no precautions were taken to prevent the spreading of the contagion. From this case were traceable, directly or indirectly, the seventy-three cases which occurred in the city during the first five months of the year 1859. Twenty-one of these cases were unmodified smallpox, and fifty-two varioloid; thirty-three were in males and forty in females. In January there were ten cases, three smallpox, seven varioloid; in February six cases, three smallpox, three varioloid; in March twenty-nine cases, nine smallpox, twenty varioloid; in April seventeen cases, four smallpox, thirteen varioloid; in May eleven cases, two smallpox, nine varioloid. In those under five years of age, there were nine cases of smallpox and three of varioloid; between five and ten years, there were four cases of smallpox and five of varioloid; between ten and fifteen years, there were one case of smallpox and eight of varioloid; between fifteen and twenty years, there were one case of smallpox and three of varioloid; and in those of twenty years and over, there were six cases of smallpox and thirty-three of varioloid. Of the whole number of cases forty-six occurred in Americans, and twenty-seven in foreigners; sixty-four in whites and nine in colored persons. Four of the cases only terminated fatally; of these one was three months old, one three years, one four years, and one thirty-five years; one was a male and three females; three were white, one was colored; all were of American parentage. One died on the 8th, one on the 9th, one on the 10th, and one on the 11th day after the appearance of the eruption. Of the whole number of cases of smallpox (twenty-one), eight were confluent and severe. Of these, four, or one-half, died. No case of distinct smallpox or of varioloid proved fatal. Of the four cases of confluent smallpox which recovered, one was an infant only seven weeks old when attacked; one was a boy five years old; one a boy of fifteen years; and one a colored man of thirty years.

Of the fifty-two cases of varioloid, four were very severe, and undistinguishable from confluent smallpox until the 7th or 8th day, when the sudden cessation of fever, and speedy dessication of the pustules showed that the previous vacci-

nation had modified the disease, and, probably, saved the lives of the patients. All the severe cases of varioloid were in persons who had been only once vaccinated, and that many years previously. In many the marks of vaccination were not satisfactory. Eighteen of the cases of varioloid were extremely mild, with very few pustules, and attended with very little inconvenience to the patients. By one of the mildest of these cases, in which but six imperfect pustules were formed, the variolous contagion was communicated to a child, resulting in a severe attack of smallpox.

In nine of the cases of smallpox, including three of the confluent, and in thirteen of the cases of varioloid, no medicine whatever was administered.

The average duration of the four fatal cases of smallpox was nine and a half days from the commencement of the eruption.

All the facts connected with the occurrence of smallpox at Providence, R. I., in the early part of last year, prove in the clearest and most striking manner the protective power of vaccination. Between the 1st of January and the 16th of July, 1859, one child, vaccinated eight days after exposure to the contagion of smallpox, was attacked. Two other persons, vaccinated six days after exposure, had the varioloid. Beside these, not a single individual, so far as known, of the probably three thousand persons who were vaccinated or revaccinated, subsequently to the first of January, had the slightest indication of varioloid, notwithstanding their exposure to the variolous contagion. In one locality, twenty-one children vaccinated for the first time, were repeatedly, and for weeks continuously, exposed to smallpox, with entire impunity. It was known, in another case, where over two hundred had been vaccinated or revaccinated *after exposure* to smallpox or varioloid, that in no one of them was a single symptom of disease developed. In nearly all the cases of varioloid, some years, and in the greater proportion, many years had elapsed since vaccination. Not a single person who had ever been vaccinated, at any period of life, died from smallpox during the prevalence of the disease, and Dr. Snow is satisfied that no person took the smallpox in its unmodified form who had ever been vaccinated. Two individuals who had the disease and recovered, believed they had been vaccinated, but had no positive evidence of the fact, and exhibited no cicatrix upon the arm.

In regard to the supposed danger of the communication of other than the vaccine disease by vaccination, the whole of the facts developed during the prevalence of smallpox in Providence are opposed to the possibility of such communication. In no one of the 1203 persons vaccinated at the office of the Board of Health after the 1st of January, 1858, were injurious results experienced from the operation, and the same is the testimony of other physicians with respect to the cases vaccinated by them. With the care taken by every conscientious physician to obtain vaccine virus only from young and healthy children, Dr. Snow does not believe there is the least cause to fear the communication of any disease by vaccination besides that for the production of which the operation is performed.

Dr. Snow believes that there is no danger of the vaccine virus becoming effete by its being passed frequently through the human body, and rendering necessary its being renewed from the cow at short intervals. The virus used in Providence for vaccination had been in use for many years, and had consequently passed through a large number of persons. Still the vesicle produced by it is perfect in every respect, according to the description of Jenner. It follows precisely the described course, from the insertion of the virus to the separation of the scab, leaving a perfectly characterized vaccine cicatrix. Add to this the fact that the vaccinations with it have afforded invariably absolute protection against repeated and continued exposure for weeks, to infection from severe cases of smallpox.

Many persons, when exposed to the contagion of smallpox, contract the disease in a more or less modified form, although they had been effectually vaccinated. Though in this its modified form the disease is generally mild and without danger, still it is always unpleasant, and even in its mildest form may communicate smallpox to the unprotected, and varioloid to such as have been vaccinated. The production of the modified form of smallpox in the vaccinated has been

attempted to be accounted for in two ways. *First*, that although a first vaccination is successful and characteristic, it may, in certain cases, from constitutional insusceptibility or some other cause not well understood, afford only a partial or imperfect protection against smallpox; or *secondly*, that a first successful vaccination gives only during a certain period full and perfect protection, which becomes gradually impaired in the course of the organic changes constantly taking place in the human organism, especially the change from childhood to adult life.

"My opinion," says Dr. Snow, "has always been, that the first theory is true; but the facts I have collected during the past season, seem to favour the last theory. But whichever of them is true, *the necessity of revaccination is fully established*. A revaccination, with its peculiar modified effects, is the only certain proof that the first vaccination was good, and that the person is fully protected. And if a person has been vaccinated and revaccinated until no characteristic effect is produced by it, he may rest perfectly satisfied that he is safe from all danger of contracting either smallpox or varioloid."

The truth of this statement is established by a long series of the most imposing statistics. D. F. C.

ART. XXI.—*Report of a Select Committee of the New York Chamber of Commerce on Quarantine.* Adopted July 7, 1859. 8vo. pp. 48.

CONSIDERED in all its aspects and relations, the subject of quarantine is one which presents strong claims to the serious consideration of every enlightened community. In the correctness of the views entertained in reference to it, and the propriety of the means by which those views are attempted to be carried out in practice, are involved not merely the interests of the mercantile classes, but the safety and comfort of every individual resident within the limits of a commercial city.

When we take into account the state of popular and even professional knowledge as to the nature and etiology of diseases, and the gross errors which prevailed as to the mode of their propagation, when quarantine was first adopted, little surprise need be entertained at the absurdities—the unwise restrictions—the personal annoyances by which it was characterized at its inauguration, and for a long period subsequently; nor at the controversy to which almost every question in relation to it—its efficiency as a means of preventing the introduction of disease—its proper duration, or the best plan for its practice and enforcement—has, from time to time, given rise. The only thing surprising in the case is, that the experience derived from a close observation of the results of quarantine at the different ports at which it has been most strictly enforced, and during a series of extensive epidemics of malignant disease, together with the light derived from our increased and more exact knowledge of the character and causation of many of the maladies as a barrier to which quarantine was, at first, more especially designed, that any difference of opinion should continue upon the subject—that there does not exist an almost unanimity of sentiment as to the actual objects to be attained by a judicious system of quarantine, as well as to the mode in which such a system must be administered in order that its legitimate purposes may be secured. There are certainly no inherent or any other very serious difficulties in the way of a satisfactory settlement of the entire question of quarantine. We are persuaded that were it left to a commission composed of enlightened and experienced physicians a system of quarantine could be devised, the faithful execution of which, while it secured to the community all the safety from the introduction of disease into its midst, that it is possible by the best devised and most strictly observed precautions to afford, would be divested of many, if not all, of the onerous burdens, arbitrary and unwise restrictions, pecuniary sacrifices, and positively mischievous results which are justly chargeable to some, at least, of the quarantine regulations now in force.

The discussion of the subject of quarantine by conventions held during the

years 1847, 1848, and 1849, and composed of delegates from the leading commercial ports of the United States, of unquestionable character and intelligence, and selected because of their supposed familiarity with the important questions involved in the subject of the prevention of disease by and through the commercial marine, has brought the subject of quarantine prominently before those most deeply interested in it, and in a form the best adapted to furnish the true data upon which alone correct views and practices in respect to it can be based.

The final action of the last session of the National Quarantine Convention, held in the city of New York during the past year, is the cause which prompted the appointment by the Chamber of Commerce of that city of a special committee to report on "the general subject of the quarantine laws of the State, and the legislation required to give practical effect to the declared sentiments of the National Quarantine and Sanitary Convention."

The conclusions arrived at by the committee and embodied in the report which lies before us are based mainly upon the reports and discussion of the last-named convention, and the opinions furnished to the committee, at its request, by eminent members of the medical profession of New York, in regard to the scientific questions involved in the general subject submitted to it for its investigation. Although, occasionally, somewhat loosely worded, the conclusions at which the Committee of the New York Chamber of Commerce has arrived are in accordance with the facts which are deducible from the history of quarantine—the observations of the most enlightened physicians in respect to the correct etiology and mode of propagation of diseases, and the lights derived from the scientific discoveries of the age generally.

The committee recommends that "the persons of the sick and the well should be relieved from the confined and impure atmosphere of the vessel, and, instead of being imprisoned within the narrow limits of a quarantine station, they should at once, after proper cleansing and changing of raiment, be allowed free egress into the pure air of the country or their customary places of residence.

"The question of safety in regard to clothing and bedding, and articles of merchandise which, by medical advice, are brought under the term of *fomites*, is a different one, and must be treated with a due regard to the lights which science and experience have granted to us."

In considering how far existing restrictions should be modified in regard to crews and passengers sick, or in danger of infection, from smallpox, typhus fever, or cholera, the report speaks as follows:—

"In reference to the first named disease it is, unfortunately, always rife in our midst, and the regulations of quarantine can do no more for the protection of the community against its ravages than to keep the well who pass through its bounds free from danger of contagion by vaccination, and to place the sick at the earliest practicable moment within the influence of good air and judicious treatment."

"Typhus fever is a malady to be dreaded, and, under certain unfavourable circumstances, more so than either of the diseases mentioned. In unwholesome places, and especially in uncleanly and infected vessels, it is a fearful enemy of human life. It should rarely, if ever, be confined within the close bounds of a quarantine station longer than is indispensably necessary for the purification of person and clothing, and the removal to more appropriate accommodations.

"The like remarks will apply to cholera, in regard to which disorder confinement should rarely be resorted to. This is a malady to be found only where localizing conditions that favour its prevalence exist, as on shipboard, in filthy dwellings, in pestilent atmospheres, or where large bodies of people are congregated. How palpable, then, is the truth that the patient should at once be removed beyond such influences!" * * *

The committee declare it as their opinion that the effect of the general prevalence of the doctrine of non-contagion of yellow fever, founded, as they remark, on principles of truth, justice, and philanthropy, adopted by the National Convention, will be beneficial in an eminent degree to the interests of commerce, and will exercise a large influence in extending the work of reform in other branches of the quarantine station.

While we believe that the general doctrines recognized by the report before

us are founded in strict truth, and that efforts should be made to obtain the proper legislation for a thorough revision of the quarantine laws of all our commercial cities in accordance with those doctrines, we have to regret the very loose use of the term *fomites* to indicate the several media by which non-contagious diseases may be communicated through the commercial marine—foul vessels, foul cargoes, foul baggage and clothing, etc. The term fomites has heretofore been restricted to such materials as are capable, under certain circumstances, of absorbing and retaining unchanged *contagious* emanations, so as to convey them to distant places, and there give rise to the same specific diseases in those who are exposed to the materials thus charged with contagious matter as those from which the latter were derived. Much confusion, to say the least, must necessarily be occasioned by the employment of the term in a sense so very different from its original and well-established one as that which is given to it in the report before us. D. F. C.

ART. XXII.—*Remarks upon Chylous or Milky Urine, with an Account of Two Cases of that Disease.* By C. E. ISAACS, M. D., one of the Surgeons of the Brooklyn City Hospital. etc. etc. Read before the New York Academy of Medicine, June 15th, 1859.

THE peculiar appearance of the urine known as chylous or milky urine, is of extremely rare occurrence. It is very certain, at least, that the observations which have been reported, heretofore, in respect to it, are too few in number and too imperfect in details, to enable us to form any definite conclusions either in reference to the particular circumstances under which it is liable to occur, or the lesions of the principal organs, if any, with which it is most generally associated. Even so far as regards the chemical composition of the urine upon which its so-called chylous or milky condition depends, we know nothing with certainty; few, if any, accurate microscopical or chemical examinations having been made with the view of testing it.

Two cases of the disease having occurred at the Seaman's Retreat, Staten Island, N. Y., under the care of Dr. T. C. Moffat, chief physician of the institution, a favourable opportunity was offered for the careful study of some of the morbid conditions of the organism with which chylous or milky urine is associated, and the difference in composition between the latter and the renal secretion in its normal state. The history of these cases is presented by Dr. Isaacs, consulting surgeon to the Retreat on Staten Island, in the publication before us, together with some general deductions as to the causes and nature of the condition of the urine in question, drawn from the examination of the facts derived from the study of these two cases, and the few others found upon record.

In one of the cases which occurred at the Retreat—that of a Spanish sailor, twenty-six years of age—in which a milky state of the urine had existed, at irregular intervals, for upwards of three years—an examination of the fluid by the microscope and by chemical tests, demonstrated conclusively, the existence in it of urea, lithic acid, chloride of sodium, hydrochlorate of ammonia, sulphuric acid, hydrochloric acid, the triple phosphates of ammonia and magnesia, and the phosphate of lime—in a word, the principal normal constituents of the urine; and it is probable, that *all* of the constituents of the secretion existed in the urine thus examined. In addition, it contained oil and albumen, and sometimes fibrin, and it was conclusively demonstrated that *the peculiar milky appearance of the urine was owing to the intimate combination of these two substances, forming, indeed, a kind of emulsion.* There were no red globules nor tube casts detected, after the most careful and repeated examinations.

In the second of the cases at the Retreat, that of a sailor born in Santa Cruz, twenty-three years of age, the condition of the urine was found upon examination, to be the same as in the former case; excepting that the urea and lithic

acid were in very small proportion, and the fluid portion, on standing for some hours, deposited a thin layer of blood-globules at the bottom of the vessel.

This case terminated fatally; upon examination after death, both lungs, from their apices to the inferior surface of the lower lobes, were studded equally, and throughout their substance, with millions of miliary tubercles, from the size of a grain of sand to that of a mustard or hemp-seed. Under the costal pleuræ, they were also in countless numbers. The patient had never complained of cough or pain in the chest. All the other organs were healthy, with the exception of small deposits of yellow tubercular matter in the interior of the mesenteric glands. In the substance of the prostate gland were three tubercles, about the size of a buckshot. The structure of the kidney was decidedly healthy—the only morbid appearance was the presence of a very few small and scattered tubercles, which did not apparently interfere with its functions.

After taking a rapid view of the few observations in respect to chylous or milky urine to be found upon record, Dr. Isaacs remarks, in reference to its causation, that exposure to cold, especially when the body is heated, has apparently produced it. It has been attributed to the influence of mercury, but this seems doubtful. In one case, the primary cause was, undoubtedly, the inhalation of the vapour of turpentine. Dr. Isaacs has ascertained, from the captains of coasting vessels, who bring cargoes of turpentine from North Carolina, that the crews of such vessels are very subject to attacks of hematuria. The disease is said to occur most frequently in hot climates. The usual causes are most probably those which operate by determining an increased afflux of blood to the kidney, and the consequent congestion of the latter.

From a consideration of the most important of the cases that have been recorded, as well as the opinions of medical authorities in respect to the nature and causes of chylous urine, Dr. Isaacs believes that the following facts have been conclusively established.

"1. That the disease may continue for many months, and even years, without much apparent injury to the general health."

"2. That in such cases there may be, and have been, intermissions of several days, and sometimes of months and years, during which the urine was apparently healthy."

"3. That notwithstanding the daily loss of albumen, fibrin, red globules, and fatty matter, there may be very little or no emaciation. The patient may, on the contrary, abound in adipose tissue, and his muscles be apparently well nourished."

"4. The fatty matter generally appears in the urine after eating, and but seldom before, or if so, in a very small quantity. But there are exceptions to this as in the case given by Golding Bird.

"5. That astringents, and especially gallic acid, with attention to diet, exercise, etc., seem to have been the most efficacious remedies, but that the disease is generally very little under the permanent control of remedies.

"6. The kidney is certainly in a very different condition from that of Bright's disease (so called), inasmuch as renal epithelium tube casts, etc., are not generally found in the urine, neither do pathological changes occur in the kidney secreting milky urine, at all resembling those in Bright's disease. On the contrary, in the only two cases which Dr. I. has been able to find, viz., that of Prout and one reported by himself, the kidneys were perfectly healthy.

"7. From the examination of the kidneys in Dr. I.'s case, it is positively and conclusively demonstrated, that there was in that instance no *organic* lesion of the kidney, and from the symptoms and history of the other cases, the same conclusion may properly be deduced with regard to them. Moreover, the state of general good health, the intermittence of the symptoms, the absence of loss of weight, and the effects of remedies, all show that there was not, in any probability, any *organic* lesion of any other organs—at least, in the greater number of cases."

With regard to the pathology of this affection, Dr. Isaacs says: "It must be admitted, that the number of well observed cases, and especially of post-mortem examinations, of this rare disease, is too small to enable us to come to a positive conclusion as to its pathology. We may hope much from the additional

information to be obtained from cases which will occur hereafter, and which, taken in connection with the rapid progress of physiological chemistry, cannot fail to bring us nearer to the truth. It may, however, be remarked, at the present time, that inasmuch as it has not been proved to depend upon any disease of the assimilating organs, or upon *organic* lesion of the kidneys, we are then justified in regarding it as a functional derangement of those organs, and which probably depends upon a peculiar condition of the renal nerves and capillaries, not as yet made manifest to the naked eye, nor even when aided by the microscope." D. F. C.

ART. XXIII.—*Contributions to Operative Surgery and Surgical Pathology.* By J. M. CARNOCHAN, Professor of Surgery in the New York Medical College, Surgeon-in-Chief to the State Emigrants' Hospital, etc. With illustrations drawn from nature. Parts I., II., and III. Philadelphia: Lindsay & Blakiston, 1858–1860. 4to. pp. 127.

THESE contributions are published in a collected form, the author tells us in his preface, in the hope that they will be found useful by those who recognize that it is from the study of particular facts operative surgery frequently derives its most valuable suggestions. "The methodical treatise, or *corpus scientiæ*," it is added, "is indispensable to the professor, the practitioner, and the student; but, after all, it must be recollected that the progress of operative surgery is chiefly effected by the discoveries of great surgeons in particular cases, and by new methods which effect cures that were once deemed beyond the reach of art."

As a rule, surgeons have been satisfied with the publication of their interesting and important cases in medical journals, the transactions of learned societies, and hospital reports. From publishing these contributions in a collected form, after they have already appeared in various medical journals, it seems that their author, after practical experience in the matter, finds the usual mode of proceeding to be insufficient for the realization of his objects.

The contents of the three parts before us are as follows:—

Of Part I.: Case of Amputation of the entire Lower Jaw; Remarks on Amputation of the Lower Jaw; Elephantiasis Arabum successfully treated by ligature of the Femoral Artery, with Cases.

Of Part II.: Case of Exsection of the entire Ulna; Remarks on Neuralgia of the Face, with a Case; Exsection of the Trunk of the Second Branch of the Fifth Pair of Nerves beyond the Ganglion of Meckel, for severe Neuralgia of the Face, with three Cases.

Of Part III.: On Congenital Dislocations of the Head of the Femur; Anatomical Observations on Congenital Dislocations of the Head of the Femur; On Restoration of the entire Upper Lip, with Cases.

All of the papers contained in Parts I. and II. have been published in medical journals; the one entitled "Exsection of the Trunk of the Second Branch of the Fifth Pair of Nerves beyond the Ganglion of Meckel, for severe Neuralgia of the Face, with three Cases," is contained in the number of this journal for January, 1858; the others have appeared from time to time in the various medical journals issued in New York. The paper entitled "Remarks on Neuralgia of the Face, with a Case," was published recently in the *New York Medical Press* (Vol. III., Nos. 4 and 5), and there the history of the case was continued down to the commencement of the present year. It seems that an additional operation had been performed, the neuralgic pains having returned, at which the portion of the trunk of the second branch of the fifth pair of nerves still remaining in front of the foramen rotundum, in immediate connection with the ganglion of Meckel, was excised. This operation was performed in June, 1859, and it is stated that "the result was satisfactory, and continued to be so."

Among the cases recorded in the paper on "Elephantiasis Arabum" as having been successfully treated by ligature of the femoral artery is that of Francisco

Podesta, upon whom the operation was performed in May, 1857. This same person entered the Pennsylvania Hospital in July, 1858, with his limb in as bad a condition as it ever had been, and left that institution in January, 1859, for the Philadelphia Almshouse.

From the papers in Part III., on congenital dislocations of the head of the femur, we see that their author still holds the same opinions in regard to the cause of the affection which he held at the time he published his treatise on the same subject, in 1850. The remote cause he refers to a morbid condition of the nervous system or centres; and the proximate cause to pathological muscular contraction, the unavoidable result of the primary disease. This opinion, which is one advanced by Mr. J. Guérin (*Recherches sur les Luxations Congénitales*, 1841), has been, to our mind, most satisfactorily refuted by Malgaigne, in his excellent article on congenital luxations in his volume on luxations. We notice that Dr. Hamilton, in his recently published work, after classifying, as Malgaigne has done, all the various doctrines on the subject in three divisions—one assigning as cause an aberration of the *nisus formativus*, the second entirely pathological, the third purely mechanical—admits the occasional agency of all the causes enumerated, and the probable concurrence of two or more in many instances. If all these so-called causes were really active in producing dislocation of the hip, and in many instances did aid one another, the affection could by no possibility be so rare as it is.

These Contributions are well printed, and fully illustrated by well-executed plates, and, when completed, will form a handsome volume. W. F. A.

ART. XXIV.—*Monograph on the Pathology of the Pituitary Body.* By MIDDLETON MICHEL, M. D., 8vo. pp. 32, Charleston, S. C., 1860.

ALTHOUGH the position of the pituitary body at the base of the brain, and the apparent care with which it is secured against the possibility of danger, would appear to indicate it as an organ of some importance, it still remains among the few portions of the human frame, the uses of which have escaped the closest scrutiny of every physiological investigator. Placed beyond the reach of nearly all the accidents and diseases affecting the surrounding brain, and often remaining intact in the midst of the entire destruction of the latter, but little is known in respect to the morbid conditions to which it is liable, and the phenomena by which these are attended. Here and there, it is true, an observation may be met with scattered through the records of our profession, but so few in number, and so imperfect in details, as to afford but slight materials upon which to base any satisfactory history of its pathological conditions—their nature, causes, and effects.

A very rare and interesting case of disease having fallen under the notice of Dr. Michel, the post-mortem examination of which revealed as the chief lesion, a cancerous condition of the pituitary body, he was induced to collate and arrange such observations as bear any similitude to it, which the literature of our science may present.

While his researches to this end have led to the verification of some of the morbid conditions of the pituitary body—such as atrophy, hypertrophy, simple inflammation, abscess, cystic formations, calcareous deposits, and cancerous degeneration—he has not met with a single case in which the morbid processes and the symptoms were similar to the one he himself describes, unless we except a very brief statement by Professor Rokitansky, respecting an example of cancer of this part, with extensive destruction of the bones of the skull, which was observed by him in the dead body, but without any details in respect to the symptoms manifested during the lifetime of the patient.

From the several facts set forth in the essay before us, Dr. M. believes that, if we are warranted in drawing any conclusions in respect to the nature or the

functions of the body in question, from the few observations we possess of its diseases, and their most frequent symptoms, such conclusions would seem to be:—

"*First.* That the pituitary body, however largely developed in some animals, is not a primary division of the brain, or a true encephalic ganglion, since its complete destruction is never accompanied by loss of intellection, motion, or sensation, beyond what may be satisfactorily accounted for by the necessary pressure which the morbid growth exerts upon more essential parts of the encephalon.

"*Secondly.* That from several of the morbid processess enumerated in this memoir, we have strong proof of the identity of the nature of this *hypophysis* with certain so-called vascular glands, such as the thyroid, thymus, spleen, and supra-renal capsules.

"*Thirdly.* That, while the diagnosis of its morbid conditions is rendered somewhat obscure from the absence of any ascertained function of the part, yet their almost constant connection with the simultaneous production of amaurosis in both eyes, with absence of symptoms of cross paralysis, will indicate the seat of the disease, when compared to morbid states of either hemisphere. And—

"*Fourthly.* That the long continuance of the disease in this situation, may propagate inflammatory action to neighbouring parts, followed by apathy, somnolency, syncope, cophosis, and other symptoms obscuring the diagnosis."

D. F. C.

ART. XXV.—*Medico-Chirurgical Transactions.* Published by the Royal Medical and Chirurgical Society of London. Vol. XLII. London, 1859. 8vo. pp. 461.

THIS volume of *Transactions* contains twenty-five original communications. Ten of these communications, or abstracts of them, were published in the numbers of this journal for last year, in the quarterly summaries of improvements and discoveries in the medical sciences.

As has been our custom for several years, we shall give a full analysis of these communications, at least of those not already reported in this journal, in the order in which they are published.

I. *A Case of Excision of the Head of the Humerus* (*Decapitatio Humeri*), *with its Results.* By JOHN BIRKETT.

The subject of this case was a man, aged fifty-seven, who was admitted into Guy's Hospital, July 10th, 1855, on account of the condition of his right arm. Two years and a half before, being thrust violently against a stone wall, the right clavicle was broken, and the shoulder much contused. The shoulder-joint became inflamed; the inflammation terminated in suppuration, and three abscesses formed, and were opened. The whole of this period was passed in great suffering, and the man's health had declined in consequence.

When admitted to the hospital the right arm and forearm of the patient were œdematous; the least movement of the member gave him intense pain, and pus escaped from three sinuses behind, and on the outer region of the shoulder. This part was swollen, but there was not any deformity. Distinct crepitus was felt on moving the arm, and the head of the humerus seemed to glide away, and to be removed from its normal relations with the glenoid cavity.

The operation was performed by making a triangular flap of the integuments and deltoid muscle, the base above; the head of the humerus thus exposed to view was removed with a fine bow-saw. The articular cartilage of the glenoid cavity of the scapula was destroyed, but the bone was quite healthy. The focus of the disease appeared to be in the cancellous tissue situated between the great tuberosity of the shaft and the articular head; here was an excavation in which a small piece of necrosed bone was lodged. The wound had sufficiently healed in the course of twenty-five days for the man to leave the hospital, his general

health became very good, and at the expiration of about a year and a half the sinuses closed.

At the time when Mr. Birkett reported this case, the man had been working for twenty months as a farm labourer. He could do any work not requiring a greater elevation of the arm than at a right angle with the body. The upper end of the humerus could be felt under the integuments, in front, near to the coracoid process of the scapula.

Although resection of the head of the humerus is not a very rare operation, yet we very seldom see recorded the result at a distant period of time. On this account, the communication of Mr. Birkett is one of very considerable interest. It would appear that in no case has the patient ever regained the power of raising the arm above a right angle with the trunk, or above the level of the acromion scapula.

If, instead of removing the whole head of the humerus, Mr. Birkett had satisfied himself with removing the small piece of the necrosed bone and the diseased cancellous tissue around it, a more favourable result, so far as the extent of motion in the arm is concerned, might have been obtained. By this proceeding, of scooping out the diseased parts, and also by preserving as much as possible of the periosteum, most satisfactory results have recently been obtained.

In his communication, Mr. Birkett reports another case, where a similar operation was performed, in 1848, by the late Mr. Aston Key. This patient, it is stated, has been actively employed as an engineer for the last six years.

II. *On Disarticulation of the Scapula from the Shoulder-joint, with Removal of the Acromial End of the Clavicle.* By George Matthew Jones.

A full abstract of this communication was published in the number of the Journal for April last. This, so far as we are aware of the facts, is but the third time that the entire scapula has been removed, leaving the arm still attached to the body. The notice of the fortieth volume of the *Transactions*, contained in the Journal for July, 1858, gives the history of a case in which the operation was performed by Mr. Syme; and Mr. Jones states that it has also been performed by a practitioner in Ayrshire, England.

Two cases have been reported in this country, where nearly the whole of the bone was removed. In one instance, that of Dr. Gross, reported in this journal for April, 1853, the glenoid cavity, and a portion of the acromion, were left; in the other, that of Dr. Blackman, referred to in this journal for October, 1858, the glenoid cavity, and a portion of the coracoid process, were left remaining. Mr. Jones believes that the danger from hemorrhage is much less when the whole of the bone is removed.

III. *Cases of Encephaloid Cancer affecting a Testicle which had been retained within the Cavity of the Abdomen.* By George Johnson, M. D.

An abstract of this very interesting case was published in this journal for April, 1859.

IV. *Cases of Refracture of Bone; with Observations.* By F. C. Skey.

An abstract of this paper was published in this journal for April, 1859. As is seen therein, Mr. Skey maintains that, in cases where fractured bones have become so united that movement is impeded, or local pain results, they may be violently and suddenly broken again, without *difficulty* and without *danger;* and this at any indefinite period of time. Several cases, which occurred in his own practice, are cited by Mr. Skey in proof of this opinion.

Strange as it may seem, Mr. Skey evidently regards this proceeding as novel. He speaks of Dupuytren as having endeavoured to remedy deformity after fractures by means of gradual extension and habitual pressure, and considers it original with himself to resort to more powerful agency, in order to obtain the separation of the bones. But the records of our art show that refracture of bones is advised by the most ancient authors whose writings have come down to us. Celsus even indicates exactly the same kind of cases for the performance of this operation as Mr. Skey. He says: *Solent tamen interdum transversa inter se ossa confervere; coque et brevius membrum, et indecorum fit; et si capita acutiosa sunt, assiduæ punctiores sentiuntur. Ob quam causam frangi versus*

ossa et derigi debent. (Lib. viii. sect. x. § 7.) Paulus Ægineta speaks of refracturing the bones when healed distortedly, but says that "the breaking them over again is not at all to be admitted, as it may occasion the utmost danger." (Sydenham translation, vol. ii. p. 477.) In the commentary added to the section wherein this subject is treated, the learned translator, Mr. Francis Adams, states that Avicenna speaks favourably of breaking the bones over again; and that Albucasis mentions the proposal with disapprobation. In fact, as we learn from Malgaigne's Treatise on Fractures—a work indispensable to all who write upon the subject of fractures, or desire to treat them properly, and which, thanks to the excellent translation of Dr. Packard, American practitioners not familiar with the language of the original, can now consult—the breaking of bones over again was practised habitually by surgeons down to quite modern times. Several of the surgeons he mentions made use of the knee for this purpose, just as Mr. Skey now does. As regards the length of time from the period of the original fracture, in Mr. Skey's cases, four months was the greatest at which he succeeded in breaking the bones, which in this instance were those of the forearm; in one, a case of fractured thigh, when nine months had elapsed, the attempt to refracture the bone was unsuccessful. Malgaigne cites cases, and successful cases, where fractures of the femur were broken again by Bosch, five, six, and seven months after the original injury. It was, according to Nélaton (*Path. Chirurg.*, vol. i. p. 680), owing to the influence of J. L. Petit, who raised his voice against the operation, that it was almost entirely abandoned until the time of Dupuytren, whose attempts to remedy deformity after fractures are referred to by Mr. Skey. Dupuytren, founding his opinions upon his own observations, which went to prove that a much longer time than was generally believed, is necessary for the definite consolidation of a fracture, taught that a vicious position in a broken limb might be rectified by force gradually exerted upon what he calls the provisional callus, the material composing which is fibrous tissue and cartilage. He declares that it is impossible to fix upon any exact time as that within which the callus may be made to yield; it will vary with many circumstances, among which are mentioned age, state of health, the particular bone, and the kind of displacement. As to refracture of the bones, by a force suddenly and violently applied, Dupuytren says that pathological anatomy has demonstrated the absurdity of the proceeding. (*Léçons Orales*, tom. iv. p. 144. Paris, 1834.)

Though this communication cannot be considered as pointing out a novel mode of practice, as the distinguished author would seem to claim, yet the profession must be gratified to know his opinions and his practice in a class of cases, in the treatment of which surgeons have always disagreed.

V. *Cases of Dislocation of the Os Calcis and Scaphoid from the Astragalus; with Remarks on the Importance of Dividing the Gastrocnemius and other Tendons, to facilitate reduction in various dislocations in the latter bone.* By GEORGE POLLOCK.

The cases reported by Mr. Pollock are two in number; in one of them the astragalus was dislocated forwards and inwards from the os calcis and scaphoid, in the other the astragalus was dislocated outwards. We say the *astragalus* was dislocated from the other tarsal bones with which it is articulated, and not, as Mr. Pollock has stated it, that the os calcis and scaphoid were dislocated from the astragalus, because, as Malgaigne very truly says, this mode of expression cannot be suffered in practice, it is the astragalus that projects out, it is the astragalus that tears the integuments and pierces through them. In fact, Mr. Pollock's paper shows the impropriety of calling these injuries dislocations of the os calcis and scaphoid, for throughout his whole paper it is always the *astragalus* that is dislocated.

In the first case reported by Mr. Pollock, which occurred in St. George's Hospital, under the care of Mr. Keate, in spite of great efforts it was impossible to reduce the luxation; the integuments sloughed, the tarsal joints were opened, amputation was had recourse to, but the patient died.

In the second case, where the bone was dislocated outwards, which case occurred under his own care, after using as much power as could safely be applied without producing the slightest alteration in the relative position of the dis-

placed bones, the gastrocnemius tendon was divided, and the reduction of the bone was effected without any difficulty. The patient died four days afterwards in consequence of other complications; the condition of the foot remaining perfectly satisfactory until his death.

After reporting these cases, Mr. Pollock enters into a consideration of the variety of dislocations affecting the astragalus, in order to illustrate the advantages of the treatment adopted in the case last mentioned. The conclusions to which he arrives are these:—

1. In all *simple* dislocations of the astragalus *outwards*, from the os cal s and scaphoid, in which moderate extension fails to effect reduction, the gastrocnemius tendon should be divided, and extension subsequently made.

2. In all *simple* dislocations of the astragalus *inwards*, if moderate extension fails, the gastrocnemius tendon should be divided; if this be not sufficient to permit reduction under gentle extension, the division of the tibialis posticus tendon should be had recourse to.

3. In *compound* dislocations, not reducible under gentle extension, division of the tendons, which interfere with the reduction, should at once be performed.

The reason for dividing the tendon of the tibialis posticus in dislocation inwards is, that this tendon sometimes embraces the neck of the astragalus, and the head is thus fixed firmly between it and the calcaneo-scaphoid ligament. In such a condition of things extension would of course only aggravate the obstruction.

To avoid misunderstanding, it must be added that Mr. Pollock does not claim credit to himself as the first to suggest division of the tendons to facilitate reduction of dislocations of the astragalus, nor does he claim to have been the first to have divided these tendons in order to obtain such a result; he merely desires to call particular attention to the operation as one that will usually and materially assist reduction.

This communication of Mr. Pollock is one of very great interest; the division of the tendons, of which he is so able and enthusiastic an advocate, certainly facilitates greatly the reduction of a displaced astragalus, and in all cases where such a lesion exists, surgeons should be aware of the aid they can obtain from it. It is to be regretted, however, that Mr. Pollock has not gone more deeply into the subject, and while endeavouring to aid in the reduction of a most difficult dislocation, has not thrown some light upon the propriety of restoring the bone to its place, in certain of its displacements. When the astragalus is torn from its connections with the os calcis and the scaphoid, its nutrition would be most seriously impaired, and if the integuments be torn, it would, if restored to its place, be exposed to almost certain necrosis. There is not, perhaps, as Malgaigne declares in his volume on luxations, which it is to be much desired may soon receive an English translation, as the one on fractures already referred to, a more obscure question in surgery than that of luxations of the astragalus. Most works on surgery are exceedingly defective on the whole subject. In the late work of Dr. Gross, for example, there is no mention whatever made of the class of injuries forming the subject of Mr. Pollock's communication. Luxations of the astragalus are therein treated of as always *double*, that is, as if the astragalus, when torn loose from the os calcis and scaphoid, always lost its relations with the tibia and fibula. By far the most complete consideration of the whole subject is to be found in the work of Malgaigne just mentioned, and, what is worthy of remark, the article is not once referred to by Mr. Pollock.

At the conclusion of this communication is a table giving the results of treatment in fifty-five cases of simple and compound dislocation of the astragalus. It shows forcibly the dangers and difficulties attendant upon this injury. Of the 55 cases, 13 died; giving an average of 1 death in $4\frac{1}{4}$ cases of dislocation. The total number of reductions was 18 out of 55 cases; three of these died, leaving 15 cases of recovery after reduction, treated by the usual methods of extension. These give an average of about one reduction in every four cases of dislocation of the astragalus.

VI. *A Description of the Organs of Generation of a Hermaphrodite Sheep.* By. W. S. SAVORY.

This sheep during life was regarded as an ewe, the external organs of generation presenting the characters of those of an ordinary female.

On examining the internal organs, in the place of the ovaries were two testes, each surmounted in its whole length by an epididymis, and by the termination of the corresponding uterine horn. These testes were smaller than those of an ordinary male; their minute structure was that of a natural testis; the only important difference which a careful examination could detect, was the absence of any traces of spermatozoa. This absence of spermatozoa, however, it should be remembered, has been recently shown by M. Godard to be always remarked when the testicle remains shut up in the cavity of the abdomen. On either side of the vagina was a well-formed seminal vesicle, which opened into the anterior wall, in common with a well-developed tube coming from the epididymis. The slender terminal portion of the uterine horn, instead of being only connected with the ovary by a peritoneal fold, as in the female sheep, had the same relation to the epididymis as the commencement of the vas deferens holds to the testis in the male. The uterus was smaller than that of the female, and the vagina only about half as long. The case, as Mr. Savory says, illustrates the original unity of type, and affords additional evidence of the true homology of the individual organs in the male and female.

This communication is accompanied by a plate, representing the parts above described.

VII. *On the Causes of Death after Amputation.* By THOMAS BRYANT.

A very full abstract of this communication was published in the number of this journal for July, 1859. The communication is one of great value, on account not only of the importance of the subject, but also of the very little that is definitely known upon it. The scanty character of the literature of the causes of death after amputation is referred to by Mr. Bryant himself, and given as one of the reasons for the publication of his paper. He declares, indeed, that with the exception of a valuable paper by Mr. James, published in the eighteenth volume of the *Transactions* of the Provincial Medical Association, he is unable to point to any single memoir in which they have been made a separate subject of investigation.

VIII. *On some of the Cyclical Changes in the Human System, connected with Season.* By EDWARD SMITH, M. D.

Several of the quarterly summaries of this journal, in the course of the last three or four years, have contained abstracts of papers by Dr. Smith, giving the results of his inquiries into the quantity of carbonic acid evolved from the lungs, the quantity of air inspired, and other phenomena of respiration, in the different hours of the day, together with the influence upon this great function of the body of the season, and of many kinds of food and medicines. In the present communication are given the results of the same inquiry extended throughout a whole year, and they show that great and important as are the changes of the day in reference to the maintenance of the health and the fulfilment of the duties of the body, those of season are even more so. The method adopted by Dr. Smith in these investigations, and the apparatus employed, were described in the number of this journal for January, 1857. It might here be noticed that the spirometer he uses is a dry gas-metre.

The results obtained by Dr. Smith are delineated upon a diagram that accompanies his communication. This diagram shows, in a large circle, nineteen inches in diameter, the number of grains of carbonic acid evolved, and the degree of temperature of the external air on many days in each month of the year. The general expression of the results obtained is that all the respiratory phenomena were lessened as the season advanced from spring to summer and autumn. The highest state of the functions was in spring; the period of decline was the beginning of summer; the lowest state was towards the end of summer and in the beginning of autumn; and the period of increase was the beginning of winter.

The relations established by Dr. Smith between these changes and physical phenomena, and particularly between these changes and the production and cure

of disease, are highly interesting. It has long been a familiar fact that the human system is subjected to diseases varying in kind, intensity, and prevalency with periods of the year. The cause of this has hitherto been sought for out of the system—namely, in the meteorological conditions of the season; but, according to Dr. Smith, it will be more proper to connect them with general states of the system due, doubtless, in a great degree, to those meteorological variations. Diseases of an asthenic or a sthenic type prevail in accordance with the state of the system; when the vital changes are at their maximum, we have the former, and when at their minimum, the latter. Cholera, the plague, diarrhœa, and yellow fever are particularly restricted to the minimum period.

In a postscript, which is also illustrated by a diagram, the influence of the season of the year at which children are procreated or born upon their viability is examined into. The deductions here are made from all the deaths of children that took place in the northern district of England in the year 1857, a non-epidemic year; the total number being 3,050, nearly all of whom were under one year of age. The largest percentage of these children was born in that season of the year when the human system is in a minimum state of vitality, which is not, it should be added, the period at which the greatest number of births occur.

IX. *A Contribution to the Statistics of Cancer, collected from the Cancer Records of the Middlesex Hospital.* By Septimus W. Sibley.

An abstract of this communication was published in the July number of this journal for the past year.

X. *On the Forms and Stages of Bright's Disease of the Kidneys, with especial reference to Diagnosis and Prognosis.* Fourth Communication. By George Johnson, M. D.

As is well known, Dr. Johnson is one of those who hold the theory of the *oneness* of Bright's disease to be untenable. It certainly does appear to be inconsistent with the clinical history and morbid anatomy of the kidney in its various conditions. The points of distinction between the large white kidney and the contracted kidney are too numerous and too capital to allow the latter to be regarded as always but an advanced stage of the former.

The chief object of the present communication is to point out certain cases in which the kidneys, after having become enlarged, do subsequently undergo a process of contraction, in a greater or less degree. These cases, however, may well be regarded, as Dr. Johnson declares, as so exceptional in many of their most important features, that they afford a remarkable confirmation of the doctrine that in ordinary cases the contracted Bright's kidney is not an advanced stage of a previously enlarged kidney, but rather that it is the result of a distinct series of morbid changes. For convenience of description, these peculiar cases are divided by Dr. Johnson into three classes: in one, although the size and weight of the organ are found after death to be increased, yet there are unquestionable signs of commencing atrophy and contraction in the cortical portion; in the second class this contraction has proceeded further, so that the organ is smaller and lighter than is natural; and in the third class the kidney, after having become enlarged and undergone *fatty degeneration*, has subsequently contracted, the fat granulations being still visible in the atrophied gland. Cases of these several classes are referred to by Dr. Johnson, and an interesting one of the third class is related in some detail. The differential symptoms present during life, and the results of the *post-mortem* examinations of the kidney, in these three classes of renal disease, are carefully recorded.

The communication is beautifully illustrated by three colored plates, containing each two figures, representing the characteristic appearances of three different forms of contracted Bright's kidney, and by three wood-cuts, representing the sediment in the urine at three successive periods of a case of fatty kidney.

XI. *An Account of three Cases of Aneurism of or within the Orbit, treated by Ligature of the Common Carotid Artery; with Observations. To which is added a Report of a fourth Case, treated since the Paper was read.* By Thomas Nunneley.

To show the comparatively rare occurrence of aneurism, aneurism by anasto-

mosis, or erectile tumour of the orbit, Mr. Nunneley, in this communication, before reporting his own cases, cites all that he has been able to find recorded in science. These are: five cases reported in the *Transactions*, by Travers, Dalrymple, Busk, Scott, and Curling; three cases in Walton's *Operative Ophthalmic Surgery*—one of his own, one of Velpeau, and one of Jobert; three cases in Dr. Wood's essay, *The Early History of the Operation of Ligature of the Primitive Carotid Artery;* and one case mentioned by Guthrie (*Operative Surgery of the Eye*), where aneurism of both ophthalmic arteries was found in a *post-mortem* examination of the body of a man. These, Mr. Nunneley says, are the only undoubted cases that have been recorded, so far as he has been able to ascertain; three other cases that have been published—one by Dupuytren, one by Schmidt, and a third by Freer—he believes to be of a doubtful nature.

Although it is true that the affection is not often met with, yet, without any very extended research, it is easy to increase the list of cases cited in this communication. There is one belonging to Mr. Roux, in which the carotid was ligated, with incomplete success, referred to by Nélaton (*Élémens de Pathologie Chirurgicale*, tom. i. p. 541). Broca (*Des Anévrysmes, et de leur Traitement*) cites a case cured by the injections of perchloride of iron, by Bourget (*loc. cit.*, p. 381); another, where Pétrequin, after tying the carotid without obtaining more than a momentary cessation of the pulsations, had recourse to galvano-puncture, which also was unsuccessful (*loc. cit.*, p. 306); and several others, not referred to by Mr. Nunneley, are mentioned by him in a note at page 44. Saltet, Langenback, and Rosas are said by Desmarres (*Traité Théorique et Pratique des Maladies des Yeux*, tom. i. p. 231) to have recorded examples of the affection, and these authors are not quoted. In a recent number of this journal (for July, 1859, p. 244) three cases are mentioned, which are exceedingly interesting, from the fact that they were cured by compression of the carotid artery.

The accounts given by Mr. Nunneley of the four cases treated by himself are full and satisfactory. In the first the affection was attributed to a blow received upon the eye; in the second there had never been any injury, and there was no way of accounting for the disease; in the third the patient, when stooping to take off her shoes, felt suddenly "as the crack of a gun" something give way in her eye; and in the last case, after a great and peculiar pain on the right side of the head, "sudden as a flash of light," the pain went into the eye, which felt stiff, hot, and could not be moved. All these cases were treated by ligature of the carotid, and with success, with the exception of the third, where the patient died on the sixteenth day after the operation, after symptoms that render it very probable that the nutrition of the brain had been seriously interfered with.

At the close of his communication, Mr. Nunneley discusses at considerable length the impropriety of designating all these peculiar vascular intra-orbital tumours, as "aneurisms by anastomosis," as is generally done by English writers. He seems to us, however, to have erred in the other extreme, in declaring that they are always either true, or circumscribed false aneurism.

XII. *Case of Aneurism of the Thoracic Aorta, which opened into the Trachea and Left Bronchus; and in which the Hæmoptysis occurred four years and eight months before death; with remarks on the circumstances attending the rupture of aneurisms, especially on mucous surfaces.* By W. T. GAIRDNER, M. D.

This case is well worthy of attention, not only on account of the very long period which existed between the occurrence of rupture of the sac and the ultimate fatal event, but also because of the occurrence of hemorrhage, in a modified form, at intervals during the whole of that very long period. Several other somewhat similar cases are referred to by Dr. Gairdner, particularly the well-known one of Mr. Liston, where rupture of the aneurismal sac actually took place at least five months before his death. Dr. Gairdner accounts for these cases by the healing up of the small opening, which takes place after the sudden removal of pressure, such as occurs after copious hemorrhage.

XIII. *A Case of Popliteal Aneurism, successfully treated by Flexion of the Knee-Joint.* By ERNEST HART.

XIV. *A Case of Popliteal Aneurism successfully treated by continued Flexion of the Knee-Joint.* By ALEXANDER SHAW.

Abstracts of both of these communications, together with some remarks made

by Mr. Fergusson, at the time of their reading before the Society, were published in this Journal for July, 1859.

XV. *On some of the Effects of Primary Cancerous Tumours within the Chest.* By George Budd, M. D.

In this communication, Dr. Budd reports at length three cases of primary cancerous tumour in the chest, involving the root of the right lung. In all of them, that lung had formed adhesion to the pleura costalis, and the pulmonary tissue was condensed from inflammation, which, in three of the cases, had proceeded to more or less disorganization of the pulmonary tissue, and to the formation of pockets of pus. These changes are attributed to the cancer involving and destroying all, or a great part of the nerves with which the pleura and lung are furnished. In support of his opinion, Dr. Budd refers to the suppurative and destructive inflammation of the gall-bladder, met with in cases in which a cancerous tumour exists in the portal notch of the liver, and destroys the nervous threads sent from the solar plexus to that viscus.

Secondary cancerous tumours scattered through the lungs are common, and though often of considerable size, yet the pulmonary tissue immediately surrounding them is generally perfectly healthy. The only way of accounting for the peculiar effects of primary cancer of the lung, is that given by Dr. Budd, namely, the peculiar position it occupies. According to Dr. Wilks, in a very valuable work recently published, what is called primary cancer of the lung has really its origin in the bronchial glands, and generally a large mass may be found encircling the root of the lung and involving the organ at this part.[1] A tumour situated here would interfere with the nerves on which the function of the lung and its healthy nutrition depend.

XVI. *Two Cases of Empyema, illustrating the advantage of making two openings, and adopting the plan of "drainage," in the operation of paracentesis, in that disease.* By S. J. Goodfellow, M. D. Followed by some remarks *on the operation and on the plan of treatment by "drainage" generally.* By Campbell De Morgan.

A few years since, Chassaignac suggested and practised a plan of "drainage" for the healing of deep-seated collections of matter which is very simple and very efficacious. An India-rubber tube, about one sixth of an inch in diameter, and perforated at frequent intervals by notching with scissors, is passed through the abscess or sinus, and the matter continuously and uninterruptedly exudes through the perforations. In this communication, Dr. Goodfellow relates two cases of empyema, in which this plan was adopted with signal benefit for the purpose of draining the pleural sac. In the appendix which Mr. De Morgan has added, the advantages of the use of the drainage tube are strongly set forth, and the manner of introducing it in cases of empyema is described. The operation he practises in such cases is very simple. A puncture with a trocar is made between the fifth and sixth or sixth and seventh ribs. A firm, long, iron probe, somewhat bent, is then passed through the opening to the lower and back part of the pleural cavity; an incision is made upon the end of the probe, which is then brought through the opening thus made. A strong piece of silk thread is passed into the eye of the probe and drawn through the two openings, and the drainage tube, being firmly tied to one end, is then drawn through by means of the silk. The ends of the tube are tied together, and the operation is completed.

XVII. *An Inquiry into the Nature of those Cases of Strangulated Oblique Inguinal Hernia, termed "réduction en bloc, ou en masse;" with special relation to the anatomy of the actual lesion, and practical deductions derived from an examination of the cases.* By John Birkett.

The purpose of this communication of Mr. Birkett is to show that when what is called "*réduction en bloc ou en masse*" is effected, in cases of strangulated inguinal, and inguino-scrotal hernia, the sac remains in the scrotum, and is

[1] Lectures on Pathological Anatomy, delivered at Guy's Hospital during the summer sessions of 1857, 1858. By Samuel Wilks, M. D. London, 1859, page 247.

not detached from its connections with that receptacle. A description of the dissection of cases, in which this accident is said to have occurred is given, in order to demonstrate the actual morbid anatomy of the lesion. In some of the cases, the orifice of the hernial sac was found to have been pushed away from the internal abdominal ring, by the pressure upon the scrotal tumour, that part of the hernial sac between its orifice and the internal abdominal ring was dilated into a pouch, and into this pouch the hernia had been pushed out of the scrotum and inguinal canal, and remaining fixed there behind the internal abdominal fascia. In other cases where the pressure upon the hernial tumour was greater and more continued, the neck of the sac had been torn, and the hernia had escaped through the laceration, and was found altogether outside the peritoneum.

That variety of inguino-scrotal hernia, in which the hernia has descended into the vaginal process of the peritoneum, is shown by Mr. Birkett to be the one in which this accident most frequently happens. The reason of this is the great length of that portion of the sac lying in the inguinal canal, or between the internal and external abdominal rings. This anatomical conformation renders the hernia more difficult to reduce, and also favours its dilatation into a pouch within the internal abdominal ring.

As to the treatment to be adopted in these cases, a review of the tables given by Mr. Birkett shows very plainly that if the strangulated bowel be not relieved from its constriction by an operation, and the impediment to its reduction into the peritoneal cavity removed, the death of the patient is certain. These tables contain an account of eight cases, where no operation was performed, all of which died; and twenty-nine cases operated upon, of which thirteen recovered.

This communication is accompanied by four diagrams, to aid in the explanation of this accident, the so-called "réduction en bloc."

XVIII. *On the Administration of Belladonna, and on certain Causes which modify its Action.* By HENRY WM. FULLER, M. D.

XIX. *On the Reparative Process in Human Tendons after Subcutaneous Division for the Cure of Deformities, illustrated by a Series of Specimens and Drawings from Fifteen Post-mortem Examinations.* By WM. ADAMS.

XX. *Observations on the Medical Administration of Ozonized Oils.* By THEOPHILUS THOMPSON, M. D.

Abstracts of these three papers were published in the October number of this journal, for 1859.

XXI. *On the Connection between the Heat of the Body and the Excreted Amounts of Urea, Chloride of Sodium, and Urinary Water, during a Fit of Ague.* By SIDNEY RINGER.

This communication is one of considerable length, extending over forty pages; its study, however, is greatly facilitated by twelve charts or diagrams, by which it is accompanied. The cases of ague observed were two in number, one of the quotidian type, the other of the tertian. A case of hectic fever in phthisis is also narrated; in this the phenomena were found to be identical with those presented by malarial ague. In conducting his observations, Mr. Ringer appears to have exercised the greatest care, and to have spared no pains to make them not only as accurate but as complete as possible. The urine was examined every hour during the day; and the temperature in the axilla was noted every quarter of an hour, as also was the frequency of the pulse. In one case these observations were continued for six consecutive days, in the other for two. In the case of hectic fever in phthisis the observations for only one day are given.

The general results obtained from these investigations may be thus stated, in a few words; during the hot and cold stages of ague the increase of urea and of chloride of sodium was constant, and their amount was in very close relation to the temperature of the body. It might here be added, lest some be forgetful of the fact, that the temperature of the body rises before the commencement of a paroxysm of ague, continues to rise during the entire cold stage, and reaches its highest point during the hot stage.

"The increase in the amount of urea and of chloride of sodium during the

cold and hot stages," says Mr. Ringer, "has been affirmed by Traute and Jockmann, Moos, Redenbacker, and Hammond."

The article of Dr. Hammond, published in the number of this journal for April, 1858, is referred to by Mr. Ringer, in a note at the foot of the page. In this article it is most clearly and distinctly stated that during an attack of intermittent fever the uric acid and phosphoric acid are very much increased in amount, *and the urea and chlorine greatly diminished.* As Mr. Ringer states that "Dr. Parkes has supplied the entire literature in the paper, and has kindly examined it with care," we must suppose that he had himself never read this article of Dr. Hammond, which he several times cites as showing the same general results as those obtained by himself. It should be considered quite reprehensible to make a mistake of this character; an author who is worthy of being cited at all, should be cited with perfect correctness—his opinions ought not to be grossly misstated.

The physician to whom Mr. Ringer intrusted the care of supplying the literature of the subject for his communication, has not referred to the researches of Prof. Joseph Jones, of Augusta, Ga.

XXII. *Case of Paralysis as to Voluntary Motor Powers of the Limbs on one side of the Body, attended by Hyperæsthesia as regards the Impressions of Pinching and Pricking on the corresponding side of the Face; being the Results of Compression of certain Lateral Parts of the Brain from an Intra-Cranial Aneurism: with Observations on "Induced" Cerebral Paralysis.* By John W. Ogle, M. D.

Experimental physiology has proved that all the will-conducting fibres passing down from the brain to the voluntary muscles of the body decussate each other at the anterior pyramids. Clinical observation too has shown that injury or disease of one side of the brain leads to paralysis of the opposite side of the body.

There are, however, certain instances on record where more or less interference with the power of movement or of sensation on one side of the body has been found, after death, to have been dependent upon organic lesion of parts within the cranium on the side corresponding to the paralysis. The case reported in this communication is one of these exceptional cases. A married woman, forty-three years of age, who had enjoyed tolerably good health, began to suffer with pain at the front and vertex of the head, along with dimness of sight, and pain referred to the back of the eyes. This condition of things became worse, and at the end of about two years she became subject to epileptic seizures; in the course of another year the loss of sight was complete; the senses of smell and taste on the left side were impaired; there was partial loss of muscular power on the left side of the body; contractile hyperæsthesia of the skin of the left side of the face and head; and she finally died in a violent fit of epilepsy, about eight years after the first appearance of any cerebral affection. After death, an aneurism of the anterior cerebellar artery on the left side was found, compressing the left crus cerebelli, and the contiguous portions, to a slight degree, of the pons Varolii, cerebellum, and apparent root of the fifth nerve.

Brown-Séquard, who has collected fourteen cases similar to this of Dr. Ogle, where a tumour existing between the inferior surface of the middle cerebellar peduncle and the petrous portion of the temporal bone, produced an incomplete paralysis of motor power on the corresponding side of the body, explains the paralysis as one of an "irritative" character, and caused by an excess of action. Dr. Ogle accepts this hypothesis of M. Brown-Séquard, but prefers the term "induced cerebral" paralysis, to those of "reflected," or "sympathetic," or "active," or "immediate," made use of by that celebrated physiologist. It is supposed that in these cases the irritative action is carried, by the intervention of commissural fibres, from a given point to another part of the brain, and there induces a repressive or inhibitory action of some kind or other of motor nerve fibres. The papers of M. Brown-Séquard on this subject are contained in the third and fourth numbers of his *Journal de Physiologie*, for 1858; they are

entitled "*Recherches sur la Physiologie et la Pathologie de la Protubérance Annulaire.*"

This communication is accompanied by a plate, representing the aneurism and the parts about the base of the brain.

XXIII. *The Sequel of a Case (published in Volume XLI. of the Transactions of the Royal Medical and Chirurgical Society) of Lithotrity, in which a Communication existed between the Bladder and Intestine.* By CHARLES HAWKINS.

The last volume of *Transactions*, an abstract of whose contents was published in the number of this journal for July, 1859, contained a communication (the XIXth), giving an account of a case, in which a communication existed between the bladder and intestine, where a calculus had formed in the bladder, which Mr. Hawkins had removed by lithotrity. The present communication gives an account of what was found at the post-mortem examination. The patient, it may be stated, continued to pass fecal matter occasionally with his urine, but exhibited no symptoms of stone before his death, which occurred from a giving way of his general health.

An opening, of the diameter of a goose-quill, was found at the lower part of the posterior wall of the bladder, which was here intimately united to that part of the circumference of the sigmoid flexure of the colon that lies nearest to it. The aperture in the bladder communicated with the sigmoid flexure opposite their point of union. Below the communication between the bladder and colon, the canal of the intestine was greatly constricted, to the extent of an inch and a half in length, admitting a tube through it of the size of the little finger. This stricture appeared to depend upon great condensation and subsequent cicatrization of the submucous and muscular tissues at that point. The bladder itself was healthy, and did not contain any calculous matter.

XXIV. *A Case of Vesical Calculus of unusual size removed by the Recto-vesical Operation.* By GEORGE SOUTHAM.

The patient whose case is related in this communication, was a young man, twenty-one years of age, who had laboured under symptoms of stone for sixteen years. He was emaciated almost to a skeleton, unable to leave his bed, and suffered from a constant desire to empty the bladder. The urine was ammoniacal even within the bladder, and a very considerable quantity of albumen was precipitated by boiling and the addition of nitric acid. As the microscope, however, showed no casts of uriniferous tubes, nor any reliable indications of renal epithelium, it was very properly concluded that this albumen was simply deposited from the liquor puris, and the small quantity of blood always present, in the urine. By the aid of nutritious diet and the moderate use of wine, together with bicarbonate of potash, infusion of buchu, opium, and hyoscyamus, a considerable improvement in the condition of the patient was effected in the course of about three months, when it was decided to operate.

Chloroform was administered, and the patient was secured as for the lateral operation. About half a teacupful of warm water, which was as much as the bladder could hold, was injected. A scalpel guarded by the finger, was then introduced into the rectum, and the sphincter and lower part of the anus divided in the direction of the raphe. The staff was now felt for, and the urethra having been opened anteriorly to the prostatic portion, the scalpel was pushed forward along the groove towards the bladder. The finger having been carried into the bladder and the stone felt, the staff was withdrawn. As was suspected, the calculus proved to be of large dimensions. Accordingly the wound in the prostate was enlarged on its urethral surface, with a probe-pointed hernia knife. By means of the finger the rest of the prostate and neck of the bladder were sufficiently dilated to admit of a pair of forceps. The blades of the forceps had to be introduced separately in order to grasp the stone, which was thus extracted.

The calculus had a rough, uneven surface, irregularly oval, and measured eight inches in circumference in one direction, and seven in the other, having a diameter of two and a quarter inches, and being three and a third inches long. It weighed four ounces six drachms and twenty-five grains. A section showed it to consist principally of triple and earthy phosphates, in which was imbedded at

one extremity, a small, round, alternating calculus, about three-quarters of an inch in diameter, consisting of lithic acid and oxalate of lime.

The patient made an excellent recovery; at the end of four months all signs of any fistulous communication between the rectum and the bladder ceased to make their appearance, and he was soon afterwards discharged, cured.

In some remarks appended to the history of this case, Mr. Southam enters into some consideration of the respective advantages of the various modes of cutting for stone. We do not find anything in them, however, that calls for particular mention. The operation performed by him in this instance, would be more appropriately called *recto-urethral*, than *recto-vesical*, as he states himself at the close of his remarks.

XXV. *On Different Forms of Primary Syphilitic Inoculation.* By HENRY LEE.

In this communication Mr. Lee gives the history of five very interesting cases of syphilis, in which inoculation was practised.

In the primary infecting sore, according to Mr. Lee, the secretion contains no pus, it consists of epithelial débris, mixed, perhaps, with globes of different shapes and sizes, which are readily distinguished from pus-globules by the action of acetic acid. This secretion when introduced under the skin of the patient from whom it comes, produces no effect. When from irritation the sore becomes inflamed, inoculation sometimes may take place, but it is not easily performed, and the results are very different from those which follow the inoculation of the secretion from naturally suppurating sores. In the latter cases each puncture produces a pustule, which, by repeated inoculation, will produce its like a great number of times. In the former, the inoculation, as a rule, fails, and succeeds only under circumstances of accidental irritation. It then can be repeated a very limited number of times, and the results obtained, even by a number of punctures in one situation are comparatively of a trifling description. There is, however, as Mr. Lee says, reason to believe that these same inoculations, if practised upon a patient whose system was not already affected with syphilis, would give rise to well-developed primary infecting sores.

There are a number of other points in regard to the secretion from syphilitic sores, indicated by Mr. Lee in this communication, which is altogether one well worthy of an attentive perusal by those interested in the study of venereal affections.

Two beautifully-executed coloured plates illustrate this communication.

W. F. A.

ART. XXVI.—*On the Diseases and Injuries of the Joints.—Clinical and Pathological Observations.* By THOMAS BRYANT, F. R. C. S., Assistant Surgeon, Surgical Registrar, and Lecturer upon Operative Surgery, at Guy's Hospital. London: Jno. Churchill, 1859, 8vo. pp. 273.

IN the volume before us, Mr. Bryant has presented his readers with a concise and intelligible description of the various affections of the joints. The treatise is one which has been long needed; for despite the attention which has been devoted to articular diseases, and the numerous observations and lectures which from time to time have appeared, there has always existed a certain amount of confusion, not only in the diagnosis of these complaints, but also in the description of the pathological changes of the parts. The investigations of Sir Benjamin Brodie have already done much to clear away this obscurity, and we are now glad to find that the researches of Mr. Bryant have been conducted in that spirit of philosophical investigation which cannot fail to be productive of useful results.

In the examination of the diseases of the joints, the plan adopted by the author is a sufficiently simple one. He has in the first place considered each articular affection separately, and noted the changes which have been produced

in the individual structures. The general effect upon an articulation, and the tendency towards its disorganization as influenced by diseases of its component parts, forms, then, the subject of a special investigation. Passing over our author's general remarks upon synovitis, we would draw the attention of our readers for a moment to his chapter on the pulpy and gelatiniform disease of the synovial membrane. It will be remembered that Sir Benjamin Brodie has long since separated from the ordinary forms of chronic inflammation, those cases in which there is a marked tendency in the synovial membrane to take upon itself morbid changes, and to degenerate into a "brown, pulpy, soft mass, of considerable thickness, intersected by membranous lines." Many of these latter cases, however, our author thinks may with propriety be referred to the head of chronic inflammation. The true pulpy degeneration he regards as entirely independent of inflammatory symptoms, and seems to look upon the villous growths met with in the cavities of joints thus affected, more in the light of fibro-plastic tumours, than as the result of acute action. The distinction between these two varieties of disease, if varieties they be, seems thus to rest simply upon the absence or presence of inflammatory symptoms. As to the origin of this pulpy degeneration, we are told that "the synovial membrane is stimulated to produce within its structure the simplest elements of all growths; fibro-nucleated tissues, although the action which attends their development, is too feeble to give rise to symptoms sufficiently marked to enable us to class it amongst the inflammatory diseases. It is so unlike all other morbid actions in the body to see a membrane producing new growths, composed of such simple elements, and not being the result of inflammatory action, that it appears more rational to believe that this pulpy disease is merely the result of this same action, modified by some peculiar constitutional tendency, than that it is essentially a new product of a specific disease."

The symptoms of the approach of the gelatiniform disease of the synovial membrane dependent upon an inflammatory process are described to be—acute symptoms, pain, the ordinary swelling of synovitis, and if the patient have suffered from repeated attacks at intervals—uniform enlargement of the joint; if of the knee, unnatural projection between the bones, and stiffening of the articulation, and occasionally even suppuration and destruction of the joint. The symptoms of the approach of the true pulpy degeneration are much less marked. They are local, and negative rather than positive—as for example, gradual enlargement, stiffness, occasionally a dull pain, and the absence of distinct inflammatory symptoms.

The chapter on the articular cartilages disposes of the diseases of these structures under five heads—hypertrophy and atrophy, granular, fatty, and fibrous degeneration. The occurrence of the first of these affections, hypertrophy of the articular cartilages, is, however, somewhat problematical, as in all of those instances in which it has been reported to have been met with, other disease of the joint has been present, and the enlargement of the cartilage has been most probably due either to swelling, or to one of the other forms of degeneration. Granular degeneration, or as it is more frequently described, ulceration of cartilage, is to be distinguished from the true fatty degeneration by the difference in the order of the pathological changes. In the former the cartilage cells first assuming a granular appearance, whilst in the latter, occurring most frequently in joints deprived of their natural function, a distinct formation of fat globules in the interior of the corpuscles may readily be detected. In this connection we would mention that Mr. Bryant entertains the opinion as the result of pathological observation, that the cartilages are covered by synovial membrane, an opinion from which we must confess we dissent.

The chapter upon the diseases of the articular extremities of bones is one replete with interest. The strumous deposit so frequently spoken of by surgeons as occurring in the so-called scrofulous disease of a joint, is regarded by our author as a pathological curiosity, and the majority of cases described as scrofulous affections of the articulations are by him referred, and we think justly, to the presence of chronic inflammation.

Chapter eight is occupied with the discussion of true and false anchylosis, and is profusely illustrated with cases. The operation of tenotomy in partial and

false anchylosis is considered at some length, and we are glad to observe that its application is restricted to those cases in which mechanical means alone are inefficient to accomplish a cure.

The much vexed topic of "amputation or excision" is the next subject to which our attention is directed. When the joint diseased be one of the upper extremity, there can be little doubt that the most favourable operation is excision. On the lower extremity, however, and especially with regard to the knee, the case is somewhat different; here amputation seems to afford the better chance to the patient, save in those cases where the disease is limited strictly to the articular extremities of the bones.

In disease of the tarsal bones, Chopart's amputation is strongly recommended, and we are told that generally an admirable stump is left. For our own part, we are hardly willing to yield such unqualified praise to that operation; as our observation of a considerable number of individuals upon whom it has been performed, even with section of the tendo-Achillis, has led us to believe, that practically the results of this amputation are not of the most flattering character.

For the removal of foreign bodies from the joints, especially of the knee, the subcutaneous operation is of course presented to us, and at the same time the proceeding of Mr. Syme is earnestly recommended in those cases in which difficulty may be experienced in taking the cartilage out of the joint into the cellular tissue. The terminal section of this division of Mr. Bryant's work, is occupied with the consideration of bursitis, and of inflammations external to the joint. We are also presented with an interesting analysis of 974 examples of diseased joints, admitted into Guy's Hospital during the five years ending on Christmas, 1858.

In the second portion of his work, the author proceeds to the investigation of the injuries of joints, including wounds, fractures into joints, and simple and compound dislocations. As in the other portions of the volume, the clinical illustrations are principally derived from the wards of Guy's Hospital. Many of these cases are given in detail, and among them, we observe some of unusual interest. The remarks on the surgery of the phalangeal joints at page 212, seem to us to be well worthy of study; the more so, as these topics are generally most summarily dismissed even in the more systematic treatises in injuries. At page 227 we are furnished with a novel plan for effecting the reduction of a dislocated humerus, after failure of the usual method of treatment.

The patient, a man, æt. 32, under the charge of Mr. Cock, had dislocated the head of the humerus downwards. The ordinary attempts at reduction had failed of success, chloroform having been given, and extension at all angles having been made without benefit. An air-pad of vulcanized India-rubber was then placed in the axilla, and the arm was tightly bandaged to the side. By these means the pad was made to exert a strong outward pressure upon the head of the humerus. On the third day when the bandage was removed, the head of the bone was found to have returned to its socket, although the patient was unconscious of the sudden snap usually indicative of the return of a luxated bone to its position. In this case our author tells us that it is probable no such sudden movement had taken place: it being more likely that the capsular ligament pressed upon by the head of the bone, at last gave way, and permitted the humerus to regain its normal position.

The chapter upon dislocations of the hip, illustrated with nineteen cases, is one of the most complete in the book, and we regret that we cannot enter into any analysis of it. In taking our leave of this unpretending little volume, we must express the pleasure with which we have perused it, and we trust that at some future time, the author of the pages we have thus hastily scanned, may furnish us with still more extended and complete observations on the pathology and statistics of so important and interesting a class of affections. J. H. B.

ART. XXVII.—1. *The Anatomy of the Human Lung;* an essay, for which was awarded the Fothergillian gold medal of the Medical Society of London. By A. T. HOUGHTON WATERS, Member of the Royal College of Physicians of London, &c. &c. London: John Churchill, 1859. pp. 233.

2. *On the Intimate Structure, and the Distribution of the Bloodvessels of the Human Lung.* By A. T. H. WATERS, M. R. C. P., &c. (From the Proceedings of the Royal Society for May 26, 1859. Communicated by Dr. Sharpey.) pp. 12.

LABOURS in this direction are far from being works of supererogation. Minute anatomy has but commenced its labours; and there is, perhaps, no one important viscus which may not profitably be made, at the present time, the subject of new investigations. In all these cases the incomplete state of our knowledge is not, as some suppose, owing to the imperfect condition of the optical instruments which have become necessary to this branch of research; rather is it, at least in the vast majority of cases, the result of the difficulties which surround the primary procedures by which the tissues submitted to study are prepared for the microscope. And it is precisely because the difficulties are of this character, and therefore likely to be overcome by the inventive abilities of individual observers, that so rich a field is here opened to minute anatomists.

In the case of the lung a number of unsettled points are presented for investigation. Prominent among these is the question of the existence of an epithelium in the air-vesicles of the lung, and that of the precise anatomical relations of the bronchial to the pulmonary arteries. Of these questions the first, apparently insignificant in itself, swells to very considerable proportions in consideration of that doctrine of pulmonary tubercles now in the ascendant, originated by Schrœder van der Kolk and indorsed by Virchow and Paget, according to which these bodies are believed to result from certain metamorphoses of the cells of the epithelium of the air-vesicles; a doctrine which at once loses all probability of truth if it can be shown, as taught by Rainey, Todd, and Bowman, that no such epithelium exists.

The first of the two papers above named contains the results of a series of carefully made original studies of the external and microscopical anatomy of the lung. The second contains a summary of the author's conclusions upon the prominent disputed points, and is a mere abstract of the more novel matters presented in full by the first.

A careful perusal of these papers has satisfied us that the author deserves every credit for the patience with which he has pursued his studies, for the clearness of his descriptions, and the care devoted to the obscurer parts of the matter; so that although the essay is very far from exhausting the subject, it yet presents much that is of great general interest, and may be regarded upon the whole as a valuable contribution to the literature of this portion of human anatomy.

It would be vain to expect a writer on minute anatomy at the present day to fulfil his task without the introduction of at least some new names, and accordingly in the description of the minute arrangement of the ultimate pulmonary tissue we find our author bringing forward his quota to add to the already confused nosology of the subject. The following extracts from the paper read before the Royal Society will sufficiently indicate his views of the lung structure:—

"The bronchial tubes of the lungs, after several divisions and subdivisions, which for the most part are of a dichotomous nature, terminate in a dilatation into which open a number of elongated cavities, which constitute the ultimate expressions of the air-tubes. These elongated cavities, to which various names have been given, I propose to call *air-sacs*, as being, in my opinion, more appropriate to their shape and arrangement than any term hitherto used; and the series of air-sacs connected with the extremity of each bronchial twig, with its

system of bloodvessels, &c., I shall call a *lobulette*." "Each lobulette consists of a collection of air-sacs, which vary in number from six to eight, ten, or twelve."

"The air-sacs are somewhat elongated cavities," the walls of which "have in them a number of small, shallow, cuplike depressions, separated from each other by portions of membrane which are more or less raised and project into the interior of the sac." These depressions are called "*alveoli*," a term adopted by our author from Rossignol.

The portions of pulmonary tissue designated as "air-sacs" by Mr. Waters have been especially successful in obtaining names; thus they have been called "intra-lobular bronchial ramifications" by Addison, "lobular passages" by Todd, "intercellular passages" by Rainey, "infundibulums" by Rossignol, "Malpighian vesicles" by Moleschott, and "terminal cavities" by Mandl.

Mr. Waters' descriptions of these parts present little that is novel except the two new terms "air-sacs" and "lobulettes;" but the accounts he gives are so evidently drawn from direct observation, they are so clear, and so readily understood, that his book becomes at once of considerable value to all who desire to acquire accurate information of the present state of knowledge on this subject. It has also another, and we may say a higher value than this; it contains the views of a careful and independent observer on the one side or the other of the several disputed points presented by the subject, and it is therefore a new step on the road towards the ultimate determination of the truth of the matter. Among these disputed points perhaps the most interesting is that of the existence of an epithelium lining the air-cells. (The air-cells or air-vesicles of most of the text-books are the "*alveoli*" of the "*air-sacs*" of Mr. Waters.) On this head Mr. Waters adds his testimony to that of Mandl, Kölliker, Rossignol, and others: he says:—

"From careful and repeated examination of a very considerable number of specimens of the lungs of man, and various mammals, I have perfectly satisfied myself of the existence of an epithelium in connection with the walls of the air-sacs." The cells of this epithelium, though much smaller, are described as resembling those of the ordinary pavement epithelia. It is admitted on all sides that the ciliated epithelium of the bronchial tubes terminates at the point where they open into the *air-sacs*.

Another point at present disputed is the precise distribution of the bronchial arteries and their relation to the pulmonary vessels. Thus, for example, contrary to the general opinion, Dr. Heale expressed to the Royal Society of London his belief that the bronchial arteries "do not supply in the smallest degree any portion of the *bronchial mucous membrane*."

As to this Mr. Waters states in his "conclusions:"—

"The *bronchial arteries* distribute their blood to the bronchi, the bronchial tubes, the vessels and areolar tissue of the lungs; the branches that enter the lungs pour their contents into the pulmonary veins."

His observations on the condition of the fœtal lung before birth possess very considerable interest; but it must be confessed the article on "the development of the lungs" throws no new light on this obscure subject.

It is a very great addition to the value of this book that it contains a detailed account of the processes made use of by the author in his investigations. Too often original observers omit all mention of their manner of working, which would otherwise serve as the starting-point of new studies.

Mr. Waters' book, however, is infinitely superior to the wood-cuts with which it is illustrated; these are truly execrable, especially those marked original, and in the verbal description which is appended to each, the author invariably omits to mention the magnifying power employed. J. J. W.

ART. XXVIII.—*Report on the Health of the Waterguard and Waterside Officers of Her Majesty's Customs during* 1858. By J. O. McWILLIAM, M. D., F. R. S., C. B., R. N., Medical Inspector of Her Majesty's Customs. London, 1859.

THE report before us, for a copy of which we are indebted to the author, was presented to the Parliament of Great Britain in the spring of 1859, in connection with the Third General Report of the Commissioners of Customs.

Dr. McWilliam gives a highly favourable account of the health of the officers of customs stationed at the docks and along the wharves of London, during the year 1858, as well in relation to previous years as in comparison with other bodies of men.

The number of cases from the waterside and waterguard services admitted to medical treatment was, we are told, 1,118 in 1857, but only 941 in 1858. The daily average of sick was only 20.69 in the waterguard, and 7.86 in the landing department, against 23.1 and 8.6, respectively, in the previous year. The deaths from all causes in the waterguard, which were 1.3 per cent. on an average of the previous eleven years, and 0.7 per cent. in 1857, had fallen to 0.49 in 1858. The mortality in the waterside department had slightly increased.

The small amount of sickness and the low rate of mortality that were observed among the tide-waiters and watermen of the British revenue service, during the year 1858, are curious and interesting facts on two accounts. In the first place, the number of deaths among the entire population of London, as shown by the report of the Registrar-general, was, for the year 1858, greatly above the average; and in the second place, the extreme heat of the weather during part of the summer, and the very offensive state of the river Thames, and the different docks on or about which the several revenue officers are constantly stationed, led to a general apprehension of a great increase of sickness among all who were exposed to these deleterious influences. But, from the report before us, we learn that the ordinary degree and kinds of illness were not only in no way enhanced by the influences referred to, but even underwent a marked diminution; and secondly, that the cases of bowel complaints, which are usually considered specially attributable to offensive miasmata, were even below the average during the period in which the weather was hotter, and the Thames more nauseous than on any previous occasion.

In presenting to our readers the substance of Dr. McWilliam's report, we shall follow, as far as a due regard to conciseness will admit, the language of the author.

Of the matters discharged from the sewers into the river Thames, part, it appears, floats upon the surface, part is at once precipitated, part is dissolved, and part is held in suspension. Of the latter a part is ultimately deposited after acquiring sufficient gravity by maceration. To the precipitation of the sewage mud, when the water is in a quiescent state, at the sides of the river, in what he calls "the retrogrades and brattice cesspools," Mr. Gurney is inclined to refer the pollution of the Thames.

Any body or material capable of flotation or suspension in the water of the river, as are parts of the sewage of London, undergoes a long process of upward and downward movement before being finally carried to the sea. The degree of upward oscillation is increased in proportion with the strength of the spring tides, while during neap tides the downward or seaward movement is the greatest. The extent of these movements upwards and downwards is modified by the various circumstances which influence the duration of the flood and ebb tides respectively, and by the part of the river into which such bodies are cast. Still, the ultimate result of the series of oscillations is a tendency seaward, which, although slow, probably not more than five miles in a fortnight, is certain. It is thus that a large quantity of London sewage, floated, dissolved, and suspended, finds its way to the sea.

In June, 1858, the river is described as presenting a most unusual appearance. Being of a dark slate colour, thick and turbid, and emitting a most offensive

smell, particularly at low water, when the banks, more or less polluted from the contents of sewers, were acted upon by high temperature; and during the last two or three hours of the flood tide, when the water fully saturated with sewage and stirred up mud, was disturbed by passing steamers. This condition of the river lasted until about the middle of July, and in a less degree from then until the end of September, when the river resumed its normal state. In the London and the St. Katherine's docks the water was even darker coloured than in the river, in consequence of the thick black mud—mineral and organic—on the floor of the dock, the rapid precipitation of which was favoured by the comparatively quiescent state of the water within the docks. In the Surrey, Commercial, and East and West India docks, the stench was not at any time so great as to cause much complaint, but in both the London and St. Katherine's it was equal to that of the river.

The state of the river and docks during the months of June and July, 1858, was such as to excite considerable anxiety, and it was seriously apprehended that the metropolis was on the verge of a most pestilential endemic. Fortunately this dismal anticipation was not realized. While the emanations from the river and docks gave rise to much annoyance and just complaint, there was no reason, we are assured by Dr. McWilliam, for believing that they were productive of disease, most certainly not of those forms of disease which are generally ascribed to miasms evolved from water in a state of pollution, or from mud containing organic matter that is undergoing the various putrefactive changes.

The duties of Dr. McW. as medical inspector led him to watch closely for any unfavourable influence, which the condition of the river might exert upon the health of the revenue officers under his charge. The waterguard, in number upwards of 800, may be said to live on the river, or in the docks, in ships, or in barges and open boats; while the waterside officers, numbering upwards of 500, are employed during the day in the docks, or at the various wharves of the bonded warehouses on each bank of the river. Among the causes which, by lowering vital power and inviting disease, exert a prejudicial influence upon the health of the waterguard officers, are enumerated in the report before us, exposure to vicissitudes of weather by night as well as by day, irregular and often an unusual kind of diet, occasionally indifferent and sometimes very bad accommodations, and now and then long fasting. Among the causes which operate in the contrary direction, by increasing the power to resist morbific agencies, are included the circumstance that the duties of a large portion of the waterguard call them to Gravesend, and to various other distances down the river, where the atmosphere is comparatively pure; and, also, the salutary effect of discipline upon the life and general habits of the officers of this department.

To show relatively to other years the state of health among the different revenue officers, during the hot months of 1858, three tables are given, showing, 1st. The number of sick from all causes during the months of June, July, August, and September, 1855, '56, '57, and '58; 2d. The numbers daily sick; and 3d. The number of cases of bowel complaints for the same periods.

From these tables it appears that the total number placed on the sick list from all causes during the four hot months of 1858, although slightly in excess of those sick at the same period in 1855 and '56, was below the average of the three previous years, and considerably lower than in the year 1857, when the river and docks were certainly offensive, but far less so than in 1858. As respects bowel complaints, including diarrhœa, ordinary and choleraic, dysentery, etc., the types of those forms of disease commonly supposed to be produced by noxious exhalations, the additions from these during the hot months of 1858 were 26.3 below the average of the corresponding period of the three previous years, and 73 less than in 1857. The number daily sick was also below the average, although there were several cases of rheumatism, phthisis, and other disorders on the list during nearly the entire year.

Although it may be said that the number of persons from which these results are derived was too small to warrant any general deduction, still the experiment, upon, it is true, a contracted scale, was made under circumstances as free from fallacy as can well be in a case of the kind; and, so far as it went, was well calculated to test the alleged morbific influence of the river effluvium. Of the

whole force—between 1,300 and 1,400—much the greater number were exposed to the effluvium at its very source and fountain head. No one could leave duty without his absence being accounted for, and any attack of disease necessitating absence was at once inquired into.

According to the reports of the registrar-general, the year 1858 was an unhealthy one for London; but the mortality in spring and summer was below the average, the excess of deaths having taken place in the six cold months. From the same source we learn that diarrhœa and summer cholera were, in London, "perceptibly less fatal than usual." In the three summer months of 1857, the deaths from the first of these complaints were 2,343, and from the second 177; while the respective numbers for the quarter ending September 30, 1858, were 1,391 and 90.

"While," Dr. McWilliam remarks, "it is not only admitted, but urged, that miasms and foul emanations, from whatever source arising, call for the immediate employment of every means of prevention or mitigation which science or art can suggest, and that the legislative and other investigations into the condition of the Thames during the summer of 1858 were fully demanded by the occasion; it is nowhere sustained by evidence that the stench from the river or docks, however noisome, was in any way productive of disease. On the contrary, there was less disease of that form to which foul emanations are supposed to give rise than usual." D. F. C.

ART. XXIX.—*On Excision of the Knee-Joint; illustrating the principal complications which are likely to arise after the performance of that operation, and especially the want of subsequent development and growth in the limb of the young subject.* By OLIVER PEMBERTON, Surgeon to the General Hospital, and Lecturer on Surgical Pathology at Sydenham College, Birmingham. Reprinted from the British Medical Journal. London, 1859, pp. 32.

EXCISION of the knee, in preference to amputation of the thigh, in cases of disease of the tibio-femoral articulation, has been for a number of years past, in England, an operation to which much attention has been directed, and upon which, in consequence, much has been written. The profession is, therefore, at the present time prepared to form certain conclusions in regard to it.

In a case where, from disease of the knee-joint which has resisted all his means of cure, the patient must soon die if the diseased parts remain, the surgeon is of course in duty bound to remove them, provided, as is always understood, the operation itself be not attended with too great risk to life. There are two ways in which this may be accomplished: the joint may be excised, or the thigh may be amputated. In making his choice between these two operations he should be guided by their safety, and also by their after results; that is to say, by the respective advantages of a stump, or of a shortened limb.

As regards the safety of the operation for excision of the knee, we learn from the recent publication of Mr. Price, from which we had occasion to quote in a notice of Mr. Sansom's "Mortality after Amputations," in the last number of this journal, that out of 160 cases of excision of the knee, collected from all British sources, both metropolitan and provincial, 32 died, or 1 in 5. Mr. Bryant, in a paper, an abstract of which was given in the July number of this journal for last year, informs us that out of 167 cases of pathological amputation of the thigh, performed at Guy's Hospital, 18 p. c. were fatal, or 1 in 5½. It should be added, moreover, that in amputations of the thigh for chronic disease of the knee-joint, or those in which excision might be thought of, only 1 case out of 7 proved fatal. Now, when we take into account the notoriously great fatality attending operations in a city hospital, we think ourselves right in concluding that excision of the knee-joint is at least equally fatal with amputation of the limb. We must not lose sight, moreover, of the fact that in 17 of the cases, marked as recovered

from excision, amputation became afterwards necessary. So much for the safety of these operations; at least so far as we may judge from experience.

As regards the utility of the limb preserved by excision of the knee, we have had until now very imperfect means of coming to any definite conclusion. The information it affords upon this interesting question renders the publication before us, of Mr. Pemberton, one of considerable importance. It contains the detailed history of a case, in which the operation was performed by Mr. Pemberton, with an account of the condition of the patient six years afterwards, and also what might be called the ultimate condition of several patients who had been operated upon by other surgeons.

In the case of Mr. Pemberton, two inches and a half of the femur, and an inch of the tibia, were removed from a boy, twelve years of age. Eight months subsequently the wound had entirely healed, the union between the bones was of a ligamentous or fibrous character, admitting of free movement in any direction, the difference between the two limbs exactly corresponded to the amount of bone removed, namely, three inches and a half, and the patient could walk with the aid of a stick and a high-heeled shoe, the knee being supported by a leather case. Six years afterwards, Mr. Pemberton had an opportunity of examining his patient. He had grown in height and had thickened considerably in figure, but was somewhat diminutive for his age. The lower limbs presented a wonderful contrast in appearance; the one was strong, with the muscles, bones, and joints well defined; the other feeble and blighted. The sound limb, from the anterior superior spinous process of the ilium to the outer malleolus, measured thirty-four inches; the one subjected to the operation, twenty-five! There was, therefore, a difference of nine inches; or a deficiency in growth, as compared with the other, of rather more than five inches since the operation. The limb, Mr. Pemberton says, "could not be deemed otherwise than an incumbrance, and, with the best appliances to remedy the want of length, proving, after all, little better than a sad deformity."

Mr. Butcher, the well-known enthusiastic advocate of excision of the knee, in his memoir declares that it has been proved, by several instances, that the growth of the limb was not checked by excision of the joint in childhood. He quotes in support of this statement, among other observations, those of Dr. Keith, of Aberdeen, Mr. Page, of Carlisle, and Mr. Jones, of Jersey. Mr. Pemberton wrote to these gentlemen, and from what he learned from them, he concludes that "this most undaunted surgeon (Mr. Butcher) has, he fears, been led to adopt those conclusions in the question which his wishes and anticipations too clearly held in view."

Dr. Keith says, in his answer, that though when he had sent the history of his case to Mr. Butcher, three years before, no increase of disproportion in length had at that time taken place between the two limbs; yet now, three years afterwards, the operated limb, compared to the other, seems a mere appendage to the body; from the anterior superior spinous process of the ilium to the heel there is a difference of *seven inches* in the two limbs. This patient, at the time Dr. Keith wrote, was in his fifteenth year; at the operation only one inch and three-quarters of bone had been removed, and anchylosis had taken place.

In the case of Mr. Page, the patient was too old to judge of the effect of the operation upon the growth of the limb. From Mr. Jones no answer was received, on account of the letter having arrived at Jersey at the time of the calamitous fire in the General Hospital.

The case of Mr. Keith, however, together with his own, is sufficient to show that, whether anchylosis takes place or not, after the operation of excision of the knee in children under puberty, the growth of the limb is most seriously interfered with.

Excision of the knee must, therefore, as we learn from experience, be considered as at least equally fatal with amputation of the thigh; and in children, as leaving a limb which in the course of time will become an incumbrance. Most fortunate is it, therefore, when having such an alternative before him, as no limb at all, or worse than none, that the surgeon is able to rest assured that no operation whatever is necessary in the vast majority of cases, and that under proper care and attention almost any case of knee-joint disease in a young child

will get well. It is much to be regretted, it is but right to add, both on their patient's account and on their own, that this has been so often forgotten of late years by British surgeons. Of course, as was said before, cases of disease of the knee-joint occasionally occur when, to endeavour to save life, the surgeon must remove the diseased parts; but these cases are exceedingly rare, and when they do occur, we ourselves should deem it preferable, both from motives of safety and on account of the ultimate result of the operation, to amputate at the thigh.

After having considered the effect of excision of the knee-joint upon the after growth of the limb, Mr. Pemberton proceeds to the narration of six other cases, in which he has performed the operation. Some of these cases exhibit the ordinary, and others the least frequent, complications by which it is attended. After their perusal, we cannot but express our astonishment that he could declare, as he does at the beginning of this publication, that "no surgeon, at all acquainted with the amount of shock, of hemorrhage, and other attendant circumstances of excision of the knee, will contend for one moment that the same danger to life in general follows its performance, as does amputation of the thigh." It would seem that his own personal experience, leaving aside that of the mass of the profession, should have prevented such a declaration.

In the first of these cases, the patient was a boy, seven years of age, whose left knee had been diseased for two years. The joint was excised, and the child died nineteen days after the operation of purulent infection. The second case was that of a boy, nine years of age, who suffered no pain on movement or on pressure; but the limb was useless, wasted, and in a semi-flexed position. In the hope of obtaining a more useful limb the joint was excised, and three days afterwards the patient died, having never rallied from the shock of the operation. It may be added that here, as in all the cases, chloroform was administered. The third case was a woman of thirty, who died three months after the operation, as it is said, under the wasting influence of diseased lungs. At the post-mortem examination, where the operation had been performed, pus was found burrowing its way in all directions. The fourth case was a girl, seventeen years of age; the operation here does not seem to have afforded much, if any, relief, and when she left the hospital, ten months afterwards, the soft parts over the tibia were swollen and thickened, containing one or two sinuses, and the thigh-bone, as high as the trochanter, was greatly enlarged, and had three or four sinuses leading to it. The fifth case was a man, twenty-seven years of age, who, after nearly losing his life from arterial hemorrhage from the slipping of a ligature from the superior external articular vessel, left the hospital on crutches, the joint incased in a splint, in a most unsatisfactory condition, to have the benefit of fresh air, four months and a half after the operation. The last case was a boy of thirteen; in this, at the expiration of eight weeks, the wound was completely closed, and the bones had become firmly anchylosed.

Surely, after the perusal of these cases, it is strange that any one in whose hands they had occurred should feel inclined to advocate excision of the knee. We have no hesitation in declaring, moreover, that in no one of them can we consider the operation for the removal of the diseased parts to have been imperatively demanded. The second case, particularly, can scarcely be read without a shudder; the patient was suffering no pain, all acute disorder had subsided, he was walking on crutches and had done so for years, but "*at the urgent request of the boy's friends*" a most dangerous operation is performed, and in three days he is dead. The friends may plead the excuse of ignorance in a case like this; but what answer can the surgeon, upon whom the whole responsibility of an operation rests, give to himself? Whenever we see the plea, unhappily a most common one, that such an operation was performed on account of the solicitations of a patient, or of his friends, we invariably think of the old French proverb, *qui s'excuse, s'accuse.*

We heartily thank Mr. Pemberton for the information he has given us in this little publication, which is ably written, and neatly illustrated by several wood engravings. W. F. A.

ART. XXX.—*On the Coagulation of the Blood in the Venous System during Life.* (A Thesis for a Medical Act in the University of Cambridge.) By GEORGE MURRAY HUMPHRY, M. D., F. R. S., etc. etc. Macmillan & Co., Cambridge and London. 1859. 8vo. pp. 42.

IT is well known to those who are much in the habit of making post-mortem examinations, that it is often a matter of much difficulty to determine whether coagula found in the bloodvessels have been formed before or after death. When the fatal disorder has been an exhausting one, and the dissolution gradual, so that there has been in the latter stages a failure of the powers keeping up the circulation, the clots are apt to be extensive and fully formed. And from an analogous condition of things, but insufficient in degree to destroy life, an analogous phenomenon may arise in those portions of the vascular system where the current of blood is moved with least energy. Such an occurrence, in Mr. Humphry's opinion, is not unfrequent; he details a number of cases in illustration of it.

The first of these cases is a very interesting one. A medical man was recovering from an exhausting attack of pleurisy on the right side, when uneasiness and stiffness came on in the left groin, and gradually extended down along the whole course of the veins of the limb, which became œdematous; after a time the symptoms subsided, but commenced in the other limb, the popliteal vein being the starting-point, and the lesser saphena and femoral veins becoming involved. This was in 1843. Similar but slighter attacks followed two subsequent illnesses in the same patient; typhoid fever in 1846, and pleurisy on the left side in 1851.

Mr. Humphry attributes the formation of these clots to "a preternatural tendency to coagulation in the fibrin." He thinks that they are altogether unconnected with inflammation, and unproductive of it; moreover, from the smooth exterior they present, except where adherent to the inner surface of the vessel, he is somewhat inclined to doubt Virchow's embolic theory.

With regard to the preternatural tendency to coagulation, above alluded to, our author explains it upon the view defended by Dr. Richardson in his essay on the cause of the coagulation of the blood. "The fibrin," says he, "is held in solution by the presence of ammonia, and its tendency to coagulate in the body is increased, and its coagulation out of the body is accelerated by a diminution of the volatile alkali of the blood; and it is quite probable that, in the cases which we are discussing, an insufficient quantity of this solvent medium is one of the proximate causes leading to the clotting of the blood in the vessels." Following out this idea, Dr. Humphry recommends the administration of ammonia where a predisposition to the formation of clots seems to exist. But, in the first place, while the merits of Dr. Richardson's essay are very highly estimated, his conclusions have by no means met with unqualified assent; and in the second place, we are uninformed as to the precise circumstances which indicate the tendency to the formation of clots.

The second part of this essay is allotted to coagula formed in the pulmonary artery. Seven cases in which these were observed are related; in three of these instances death was directly traceable to the presence of the coagula. A remarkable fact is that life could be maintained at all with such obstructions in so important a canal.

Clots in the cerebral sinuses are next considered, and an illustrative case given, in which no other cause of death could be clearly assigned. We are tempted here to allude to an autopsy recently made by us, in which, among other morbid appearances, the basilar and right carotid arteries with their branches were distended with tolerably firm reddish clots. The aspect and consistence of these coagula were such as to indicate that they had been formed for some time previous to death; the vessels containing them were atheromatous. Although not altogether relevant, this case may perhaps be of interest as complemental.

Lastly, Dr. Humphry speaks of the clotting of the blood in the cavities of the heart; relating the case of a girl eleven years of age, whose death took place from this cause while she was undergoing treatment for a severe burn. He takes occasion here also to allude to the mode of formation of coagula in the heart and large vessels after death, the fibrin accumulating at the periphery so as to form a tubular sheath for the later portion of the clot.

The subject of this very interesting essay has, as its author remarks, attracted a good deal of attention of late years; it is, however, one which is very apt to be overlooked, in the making of post-mortem examinations as well as in clinical practice, on account of the greater relative importance assigned to changes in the other viscera. Dr. Humphry's pamphlet will, we hope, be of use to a great many observers, by inducing them to investigate more closely the pathological changes of which it treats.

A paper on "Obliteration of the veins, and its influence in the production of partial dropsies, with considerations in regard to passive dropsies in general," published by Bouillaud in 1823 in the *Archives Générales de Médecine* (first series, vol. ii. p. 188), may be read with interest and advantage in connection with the one which has formed the subject of this notice. J. H. P.

ART. XXXI.—*The Action and Sounds of the Heart: a Physiological Essay.* By GEORGE BRITTON HALFORD, M. D., Member of the Royal College of Physicians of London, etc. London: John Churchill, 1860. pp. 47.

DR. HALFORD'S pamphlet has for its object the solution of one of the most vexed questions in physiology. It is divided into two parts: one on the action of the heart, the other on the cause of its sounds. The author starts with the objection to the results obtained by previous inquirers, that all observers, from Harvey downwards, have first removed the pericardium, the effect of which is to give to the heart an unequal and uncertain motion. In prosecuting his researches, the viscus was exposed without injuring the pericardium, and its movements studied through the transparent membrane. The experiments were made on asses and dogs, and they led to the conclusion that there exists a compensation between the auricles and ventricles; and that although the cavities of the organ are constantly receiving and discharging their contents, their movements are so regulated that the bulk of the circulating fluid inclosed by the pericardial sac is always the same. When the pericardium is removed the contractions appear more forcible, and the sounds are much louder, from which it is inferred that the membrane regulates the movements of the organ it surrounds. Of the impulse, and the functions of the auriculo-ventricular valves, it is stated that the first is systolic, and that the valves are closed before and independently of the ventricular systole. To explain it in the words of the author: "The auricles contracting on the blood, the force of their contraction is transmitted by the blood in all directions, separating the flaps of the valves, distending the ventricles, and (the semilunar valves being shut down) pressing as much upwards and backwards as downwards and onwards. The force, not being sufficient to raise the semilunar valves, is expended in distending the ventricles, and raising and closing the auriculo-ventricular valves." Respecting the action of the papillary muscles during the ventricular systole, it is held that by contracting simultaneously with the ventricles they keep the auriculo-ventricular valves in position, and prevent their eversion into the auricles. This view is identical with that of John Hunter, and similar to the one defended by Weber in his notes to Hildebrandt's Anatomy.

In the second part of the pamphlet the author criticizes with ability the opinions of those opposed to the theory of the valvular origin of the heart's sounds. That the second sound is owing to the flapping back of the valves at the aortic and pulmonary orifices is nowadays the creed of the majority of intelligent physicians. But concerning the first, the opinions are as diversified

and the arguments as plentiful as they are on the merits or demerits of special schools in painting, or of any subtle questions in metaphysics. Dr. Halford enters the list strongly in favour of the valvular origin of the sound. He interrogates the hearts of birds and snakes, and finds the sounds to differ according to the construction of the organ, especially according to the size and strength of the auricles, and the differences in size, shape, and structure of the auriculo-ventricular valves. He exposes the heart in dogs, and compresses the great veins that pour their blood into it with a pair of bull-dog forceps, and both sounds cease. He removes the pressure: they return. From his experiments, and the teachings of natural science, he therefore concludes that the first sound is exclusively due to the tension of the auriculo-ventricular valves by the backward pressure of the blood; an opinion emitted, if we mistake not, by Rouanet, and which certainly is ingeniously sustained by Dr. Halford.

J. DaC.

ART. XXXII.—1. *Series of Clinical Cases (with Observations) illustrating the Views recently put forward by Dr. Brown-Séquard, as regards certain points connected with the Physiology of the Nervous System.* By JOHN W. OGLE, M. D. Oxon, F. R. C. P., Assistant Physician to St. George's Hospital, Secretary to the Pathological Society of London. pp. 15.

2. *Cases brought before the Notice of the Pathological Society of London.* See *Transactions*, Vol. X. By Dr. JOHN W. OGLE. pp. 32.

3. *The Diaphemetric Compass; an Instrument for measuring the Degree of Discriminative Power, as regards Contactile Impressions, enjoyed by the Skin and Mucous Membranes in certain Affections of the Nervous System.* By JOHN W. OGLE, M. D., etc. pp. 11.

1. EVEN had Dr. Ogle not been already known to the profession as an able observer and writer, the first of the above-named memoirs would have commanded attention, from the great interest attaching to Dr. Brown-Séquard's researches. Many a reader will be glad to meet with a clinical exposition of the principles lately developed by this able physiologist, who, from various circumstances, would be unable to follow the different steps by which they have been reached. And even those who have been familiar with the experimental procedures and their results, upon which those principles are based, will be interested to find that bedside observation goes to confirm the conclusions arrived at by means of vivi-sections practised upon the lower animals.

Dr. Ogle thinks that his cases tend most materially to corroborate the following views:—

"(*a.*) That the posterior columns of the spinal cord do 'NOT' form, as was thought by Longet and many other observers, the means for the entire (*en totalité*) conduction of sensitive impressions to the brain; but

"(*b.*) That these columns form a medium to a slight extent only for the passage of sensitive impressions; such conduction along the spinal cord chiefly occurring in the central or gray matter of the cord, into which part the fibres of the posterior sensitive roots of the nerves, by means of transverse, ascending, and chiefly descending fibres, find their way almost immediately after gaining the cord, *viâ* the posterior columns, the posterior gray cornua, and, in part, the lateral columns. And that if there be any fibres conducting sensitive impressions ascending from the trunk or limbs along the entire length of the cord, their number must be very inconsiderable.

"(*c.*) That the fibres conveying sensitive impressions to the brain do not at any rate decussate at a point higher up in the cerebro-spinal axis than the pons Varolii.

"(*d.*) That the decussation of fibres conveying sensitive impressions must be of necessity not only at a part below the level of the upper margin or central part of the pons Varolii, but even for the most part, if not entirely, below the medulla oblongata itself. That is to say, this crossing or interlacement of sen-

sory nerves must take place in the spinal cord itself, and that not in any particular spot, but in *every* portion of the cord, almost immediately after the entrance therein of the afferent fibres.

"(*e.*) That all the motor or efferent fibres decussate at a distinct point immediately below the pons Varolii—that is to say, at the anterior pyramids and the neighbouring parts—contrary to the views of Valentin, Cruveilhier, Longet, Foville, etc."

The first of the cases mentioned is that of a man, æt. 62, in whom a dislocation of the sixth cervical vertebra forwards caused the seventh to encroach upon the anterior portion of the spinal cord, the posterior columns remaining uninjured; and yet there was on the thirty-second day entire loss of sensibility as well as of motion in the lower limbs. Numbness and loss of power in these members had come on at about the third day. The exact period during which this want of sensibility lasted is not stated.

In the second case very firm malignant growths sprang from the dura mater, at the borders of the foramen magnum, in a woman, æt. 49; the foramen was so much blocked up as hardly to admit the tip of the little finger, and of course the white portions of the cord were subjected to severe pressure. Loss of power was observed first on one side and then on the other, but the skin retained its sensibility to pinching and pricking up to the very last.

The third case was one of accidental injury, the sternum and the body of the first dorsal vertebra being fractured, the latter, however, without displacement. Some blood was effused outside the membranes, opposite the last two cervical and the first dorsal vertebræ, and in this part of the cord the anterior columns and the gray matter were softened, the posterior columns remaining intact. The sensibility of the skin of the legs, although much blunted, had never been wholly lost.

Case fourth was that of a girl, æt. 18, in whom a cyst of some size occupied the right portion of the pons Varolii. In the *left* arm, leg, and side there was great loss of motile power and of sensibility to pricking and pinching. On the *right* side of the face and nose, and on the temple of the same side, there was numbness and diminished sensibility of the skin; and the conjunctiva of the right eye was unduly vascular.

The fifth case was not very fully recorded, and is introduced for the purpose of being further elucidated.

In the sixth case "two large rounded masses of firm scrofulous (?) material" occupied, one the centre and posterior part of the right portion of the medulla oblongata, projecting up into the fourth ventricle, the other the upper and right portion of the pons Varolii. The posterior parts of the crura cerebri were also softened, and one or two small scrofulous (?) deposits were met with in the posterior parts of the cerebral hemispheres. The patient, a girl æt. 18, had for about a year had numbness and coldness of the left arm and hand, headache, and oscillation of the eyeballs.

The seventh and last case is one of injury, a man æt. 28 having sustained a dislocation of the fourth and fifth cervical vertebræ, with laceration of the spinal cord, chiefly affecting the right side and the central portions of it; softening ensued. Motility was lost in both legs at the end of two hours, and sensibility to touching or pinching soon afterwards ceased not only in the legs, but in the right forearm. Priapism also existed. Death took place in seventy-two hours.

A mere glance will suffice to indicate the bearing of these cases upon the propositions which they are intended to illustrate. Several excellent wood-cuts add much to their value.

Dr. Ogle concludes this paper with some apt remarks in reference to the common defects in the mode of recording medical observations, saying, most truly, that accounts otherwise valuable are often rendered useless by omissions or vague expressions. He thinks that, in the present improved state of physiology and pathology, we are both enabled and called upon to use more care and precision in the clinical and *post-mortem* study of lesions of the nervous system than was formerly the custom. We should be glad to present a *resumé* of these remarks, but they are so condensed that it would be tantamount to quoting them entire.

2. In the second collection of cases named in the heading of this article we find matter of great interest. Five of the cases occurred in the human subject, and one in the horse; four of the former concerned the brain or its nerves, and the remaining one was an aneurism of the subclavian artery.

The first two of these cases, among other phenomena, presented abscesses within the brain-mass, and obstruction by blood-clots, to a greater or less extent, of the intra-cranial venous sinuses on the corresponding side. Dr. Ogle argues that the abscesses were *determined*—a different word from *caused*, and here as often elsewhere much more rational—by the hindrance to the return of blood from the brain; supporting his view upon grounds so substantial as to call for its further consideration. One of his foot-notes is of such importance that we are tempted to transcribe it:—

"I would here allude to the *in*frequency with which the various cranial sinuses are examined in *post-mortem* examinations. The superior longitudinal one should habitually be examined immediately on the removal of the skull-cap, and before the dura mater is divided; and the other sinuses after the removal of the brain. I may be, perhaps, pardoned for here alluding also to a common error often fallen into, and that is the examination of the organs of the chest before that of the cranial contents, a procedure which of course allows, to a great extent, of the emptying of the cranial veins and sinuses."

The third case was that of a boy, æt. 13, an epileptic, who died in consequence of extensive burns. He had always had a deficiency in temperature and in voluntary power on the left side, and the autopsy disclosed a very remarkable atrophy of the right hemisphere of the cerebrum, as well as of the left lobe of the cerebellum. The appearance of the brain is shown in a coloured lithograph. Both lateral ventricles were dilated, the right one enormously so; degeneration of the brain-substance, to a striking degree, was detected by microscopical examination.

Fifth in this series stands the case of a man servant, æt. 36, who had had ptosis on both sides, immobility of both eyeballs, dysphagia, and loss of power over the muscles of the mouth and upper extremities. Respiration was much impeded, and he ultimately died of apnœa. Disease of the upper surface of the sphenoid bone, supposed by Dr. Ogle to have been of a rheumatic origin, was the only morbid appearance detected by dissection, except fatty degeneration of the muscles in each orbit.

Dr. Ogle's case of right subclavian aneurism (he spells it aneur*y*sm, we think somewhat pedantically) presents several points of interest. The tumour attained an enormous size, and the ends of the fingers became clubbed and cyanotic. Sensibility and motile power were lost in the arm, evidently from pressure upon the axillary nerves. "The first rib was very greatly carious, and was partly, as it were, lying surrounded by blood-clot, within the aneurysmal sac." In the July number of this journal for 1858 we reported a case in which the upper piece of the sternum was found thus lying in the cavity of an aneurism of the aortic arch; in that case also the tumour had rapidly attained a very large size.

One case in this series remains to be noticed; it was that of a horse affected with "roaring," whose laryngeal muscles were found to be atrophied on the left side. In connection with this phenomenon, Dr. Ogle remarks on the modifications of the voice, cough, etc., of man, which may arise from paralysis of the laryngeal nerves; the recurrent laryngeal, he thinks, is the one most frequently affected in this way.

3. The diaphemetric compass described by Dr. Ogle is regarded by him as an improvement upon the means hitherto proposed, by Weber, Sieveking, and others, for the purpose of indicating the degree of tactile sensibility possessed by the skin of any part. It is about 4½ inches in length, and consists of a pair of mathematical compasses or dividers, one leg having a dial-plate at its upper extremity. Behind the centre of this dial-plate is a toothed wheel, carrying the indicator; a pinion attached to the other leg of the instrument turns the wheel, and the extent of the separation of the two legs will be shown by the motion of the indicator on the dial-plate. The working of the arrangement is obvious.

Dr. Ogle introduces his description of this instrument with a brief but interest-

ing sketch of the researches of Weber, Allen Thompson, Lefévre, and others, upon the subject of tactile sensibility. But, with a candor not invariably displayed by inventors, he admits that these inquiries are possessed of but a limited degree of importance in a clinical point of view; the observer being often completely baffled by the mental state or habits of inattention, or even by the sheer stupidity, of the patient. In comparative measurements, in drawing plans, &c., such an instrument as above described may, however, be found to answer a useful purpose. J. H. P.

ART. XXXIII.—*Phthisis and the Stethoscope, or the Physical Signs of Consumption.* By RICHARD PAYNE COTTON, M. D., Fellow of the Royal College of Physicians, London, etc. etc. London: John Churchill. Second edition, pp. 80.

THIS is the second edition of a little work on the recognition of consumption, by the author to whom was awarded the Fothergillian gold medal of the Medical Society of London for a comprehensive volume on the nature, symptoms, and treatment of the same malady. It is evidently a faithful picture of what the writer has encountered at the bedside; and, freed as it is from unnecessary and tedious detail, will undoubtedly furnish an acceptable aid towards the detection of the formidable malady of which it treats.

We shall not, of course, attempt to give a summary of a book in itself a summary. We will merely state, in passing, that we heartily indorse the author's "unorthodox" opinions with reference to the value, or rather the want of value, of percussion in many cases of acute phthisis. So, too, as regards bronchophony; although we are sure that Dr. Cotton has overstated the case when he says that this most unreliable sign is perhaps of all the most commonly trusted to and most commonly employed. J. DaC.

ART. XXXIV.—*Lectures on the Diseases of Infancy and Childhood.* By CHARLES WEST, M. D., Author of "Lectures on the Diseases of Women;" Fellow of the Royal College of Physicians; Examiner in Midwifery at the Royal College of Surgeons of England; Physician to the Hospital for Sick Children; Physician-Accoucheur to, and Lecturer on Midwifery at, St. Bartholomew's Hospital. Third American from the fourth revised and enlarged London edition. Philadelphia: Blanchard & Lea, 1860. 8vo. pp. 630.

THE high estimate of these lectures we expressed on the appearance of the first edition has been fully confirmed by the unanimous voice of the medical profession. As a work of unquestionable authority in reference to the pathology and therapeutics of those diseases of infancy and childhood embraced in them they stand confessedly unsurpassed. They present far higher claims to our notice than as a mere digest of facts recorded by previous and contemporary writers. They are to be regarded, in a great measure, as constituting an original work. While the materials accumulated by others are freely made use of, none of them are appropriated that has not been carefully compared and tested by the author's own experience, acquired in the very favourable and ample field furnished to him by the Hospital for Sick Children in London. The conclusions presented by Dr. West in the lectures before us are based, we are assured, upon the result of nine hundred observations, and two hundred and eighty-eight *post-mortem* examinations, made among *thirty thousand* children who, during the past twenty years, have come under his care.

We have had frequent occasion to consult the lectures of Dr. West, and never without being most favourably impressed with the fulness, accuracy, and great

clearness of the author's descriptions, the soundness of his pathological views, and the simplicity and excellence of his therapeutical directions.

In the edition before us all the lectures have been carefully revised, while large additions have been made throughout, to supply the deficiencies of former editions, and to bring up the entire course to a level with the present state of medical knowledge in reference to the subjects embraced in it. Some of the diseases incident to the early periods of life, it is true, remain still unnoticed, while among those embraced in the course some are treated of with much less fulness than others. Taken as a whole, however, the lectures of Dr. West will claim a high rank among the very best treatises on the maladies of infancy and childhood which have appeared in our own or any foreign language.

The lectures which in the present edition have received the largest additions are those on diphtheria, on the disorders of the mind, and on idiocy. The entire lecture (Lec. XVI.) in which the mental affections of early life are treated of has been considerably enlarged and improved; while the whole of it is highly instructive, it is, at the same time, replete with the deepest interest. The most important lectures of Dr. West's entire course are, however, those devoted to the diseases of the respiratory organs, as they occur in infancy and childhood. We know of no publication, indeed, in which the pathology and treatment of these important affections—affections, it may be remarked, which in very many of our States are of extremely frequent occurrence—are more fully and ably treated of. Their consideration occupies thirteen of the lectures (XVII. *to* XXIX. *inclusive*), occupying nearly one-third of the entire volume.

The publishers of the present American edition have appended two lectures published by Dr. West since the appearance of the work in England; one on "Sudden Death in Infants and Children," and the other on "Cerebral Symptoms independent of Cerebral Disease." Both of these subjects, upon which little, if anything, has been written, are of the deepest interest to the physician. They are treated by our author in his usually able and satisfactory manner. D. F. C.

ART. XXXV.—*Introductory Lectures, and Addresses on Medical Subjects, delivered chiefly before the Medical Classes of the University of Pennsylvania.* By GEORGE B. WOOD, M. D., LL. D., President of the American Philosophical Society, President of the College of Physicians of Philadelphia, Professor of the Theory and Practice of Medicine, and of Clinical Medicine, in the University of Pennsylvania, etc. 8vo. pp. 460. Philadelphia: J. B. Lippincott & Co., 1859.

UPON the eve of his retirement from the office of public medical teacher which he has filled for many years, with great credit to himself, and to the entire satisfaction of his numerous pupils—when about to relinquish, for the time being, at least, the active duties of a medical practitioner, and to absent himself for a season from our midst—Dr. Wood could not have performed a task more acceptable to the large circle of his friends and admirers than the collection and publication of the introductory lectures and addresses on medical subjects delivered by him at various times and on various occasions. He could not have devised a more pleasing memorial of himself, in the view of those who have listened to his instructions during the term of their pupilage, or who have had the privilege of a personal intercourse with him, on a footing of reciprocal friendship, or in the rounds simply of professional intercourse.

Irrespective, however, of their value based simply upon the feelings of respect and esteem cherished for their author, the lectures and addresses of Dr. Wood recommend themselves to the notice of all who regard with favour whatever relates to the history, progress, and ethics of our profession. From them its younger members may acquire many a useful lesson, and even those of riper years cannot fail to find in them much to interest. We cannot, indeed, conceive it possible that any one, whether young or old, can rise without profit from the

perusal of the matured reflections and deliberate conclusions of one who, like Dr. Wood, is so distinguished for his devotion to the true interests of medicine, for his efforts to raise it in theory and in practice, as a science and an art, to its proper rank, and to secure for it, as far as possible, that general respect and confidence it deserves, as well from its intrinsic excellence as from the blessings it is known to have already conferred, and which in the future it cannot fail to a still greater degree to confer, on the human race.

The volume before us, we feel confident, will be eagerly sought after by the medical men of the United States, and command a prominent place amid the most cherished works of their respective libraries, as a memento of one who, though no longer to be ranked as an active participant with them in the toils and responsibilities of a medical practitioner, will ever be held in great esteem for his worth as a man, his talents as a physician, and his successful career as a medical teacher and author. D. F. C.

ART. XXXVI.—*A System of Dental Surgery.* By JOHN TOMES, F. R. S., Dentist to the Dental Hospital of London, and to the Middlesex Hospital. With two hundred and seven illustrations. 8vo. pp. 686. Philadelphia: Lindsay & Blakiston, 1859.

DENTISTRY, although generally regarded as a distinct and even an inferior department of general surgery, claims a foothold upon the same physiological and pathological basis by which other branches of medical science are sustained. In many treatises on surgery, it obtains more than a mere casual mention; but its very importance forbids any attempt at its full discussion in such works. Mr. Tomes has for many years been known as a successful investigator of the healthy and morbid conditions of the teeth, and the very elegant volume before us affords the benefit of his labors to the world at large.

He says, in his preface: "In the following pages an attempt has been made to produce within the limits of a manual, a strictly practical work on dental surgery. In order to fulfil this object, it became necessary to enter upon the structure and development of the teeth and jaws in a limited degree only, and to leave untouched any historical account of the writings of those who have from time to time contributed to our knowledge in this branch of surgery. The diseases of the teeth, and of the parts subservient to them, together with the coincident maladies, have been treated of, so far as may be, in the natural order of their occurrence, and the structure and development of the tissues involved have been to some extent described before entering upon the diseases to which they are respectively liable. In a work devoted to the description of practical details, the modes of proceeding in the treatment of diseases, whether by operations or otherwise, must necessarily be those practised by the author."

Mr. Tomes's work is not divided into chapters, but the subjects are simply introduced in succession, under their respective headings. The development and irregularities of both sets of teeth, with the corresponding changes in the jaws, are first described. A serial collection of skulls was made by the author expressly for the purpose of elaborating this account, in the course of which are some very sound remarks, with quotations from Copland and West, upon the constitutional symptoms commonly ascribed to dentition.

A very clear and interesting account is given, under the next head, of the minute anatomy of the dental tissues; the diseases to which they are liable, with the appropriate treatment for each, are also detailed. Surgeons are, however, very seldom called upon to use any other operation for these diseases than that for the radical cure—extraction; so that the directions and illustrations here given will be of interest mainly to those who make dentistry their profession.

Many a country medical practitioner doubtless meets with cases, in which our author's section on extraction would be of great assistance. We are, however, surprised that Mr. Tomes, even avowing as he does his preference of the forceps

to the key, should have omitted all description of this latter instrument; we have known several operators of great experience who placed a high value upon it, and its use might be absolutely necessary, in situations where suitable forceps were not to be had.

Generally speaking, the typography of this reprint is very correct; but we notice that Mr. Rainey's name is spelt in two different ways, the wrong one occurring four times, the right only once.

It would be unjust to conclude this notice without calling attention to Mr. Bagg's exquisite illustrations. This gentleman deserves the sincere thanks of our profession for the beauty and artistic finish of his drawings, so many of which have added value to surgical literature. He has in the present instance, we think, even exceeded his usually high standard of execution.

Messrs. Lindsay & Blakiston have displayed great taste and liberality in the getting up of this very handsome volume. J. H. P.

ART. XXXVII.—*Therapeutics and Materia Medica. A Systematic Treatise on the Action and Uses of Medicinal Agents, including their Description and History.* By ALFRED STILLE, M. D., late Professor of the Theory and Practice of Medicine in the Medical Department of Pennsylvania College, &c. &c. Philadelphia: Blanchard & Lea, 1860. In two vols. 8vo.

WE congratulate the profession on the appearance of this work, which has been long anxiously looked for, and in regard to which very favourable anticipations have been indulged in by those acquainted with the author, who is known to be a physician of extensive acquirements, a conscientious and industrious investigator, a liberal scholar, and to have been long engaged in collecting materials for this treatise.

In our next number we hope to be able to give a full review of the work.

ART. XXXVIII.—*Clinical Lectures on the Principles and Practice of Medicine.* By JOHN HUGHES BENNETT, M. D., F. R. S. E., Prof. Inst. of Med. and Senior Prof. of Clinical Medicine in the University of Edinburgh, &c. &c. From the last Edinburgh edition. With 500 illustrations on wood. New York: Samuel S. & Wm. Wood, 1860. 8vo. pp. 952.

HAVING recently reviewed fully (see number for October, 1858, p. 429 *et seq.*) the second edition of this valuable work, all that is necessary at present, in announcing the appearance of the third edition, is to say that the work has been carefully revised, and extended by the addition of fifty pages, with twenty-one new cases and thirty-four new wood-cuts.

ART. XXXIX.—*Lectures on Surgical Pathology.* Delivered at the Royal College of Surgeons of England. By JAMES PAGET, F. R. S., &c. &c. Second American edition. Philadelphia: Lindsay & Blakiston, 1860. 8vo. pp. 699.

IT is creditable to the profession in this country that a reprint of this work should have been so soon called for. It is unquestionably one of the most valuable contributions to surgical pathology which has been made during the present century, and no student should rest satisfied until he has made himself thoroughly acquainted with its teachings.

ART. XL.—*The Diagnosis, Pathology, and Treatment of the Diseases of the Chest.* By W. W. GERHARD, M. D., one of the Physicians to the Pennsylvania Hospital, &c. &c. Fourth edition, revised and enlarged. Philadelphia: J. B. Lippincott & Co., 1860. pp. 448.

THIS work has been so long before the profession, and is so generally known, that it is sufficient to say, the present edition has been revised and corrected, and about one hundred pages of new matter added. Large additions have been made to pneumonia, phthisis, and especially to diseases of the heart.

ART. XLI.—*A Practical Treatise on Operative Dentistry.* By J. TAFT, Professor of Operative Dentistry in the Ohio College of Dental Surgery. With eighty illustrations. 8vo. pp. 383. Philadelphia: Lindsay & Blakiston.

As the title of this work indicates, the wants of students and practitioners of dentistry have been consulted in its preparation. After very concisely noticing several important disorders of the teeth, the author takes up the subject of caries, to which, with its consequences, treatment, etc., two hundred and forty-four pages are devoted. The remainder of the book treats of extraction, with the exception of a very short chapter on anæsthesia.

We think that Mr. Taft has dealt quite practically with the matters properly embraced under the title of his book. The illustrations are in reality more than eighty in number, many of them including several different instruments.

J. H. P.

ART. XLII.—*Description of a Deformed, Fragmentary Human Skull, found in an Ancient Quarry-Cave at Jerusalem; with an attempt to determine, by its configuration alone, the ethnical type to which it belongs.* By J. AITKEN MEIGS, M. D., Prof. Inst. Med. in Med. Depart. of Penn'a College, &c. &c. &c. Philadelphia, 1859.

THIS is a very able and well-drawn up paper, exhibiting extensive research, an intimate acquaintance with the subject, and close and ingenious reasoning. We commend it to the attention of those interested in ethnological studies.

QUARTERLY SUMMARY

OF THE

IMPROVEMENTS AND DISCOVERIES

IN THE

MEDICAL SCIENCES.

ANATOMY AND PHYSIOLOGY.

1. *Retrograde Course of the Emulgent Veins.* By M. Francheschi.—Since the demonstration by M. Claude Bernard before the Society of Biology, of the existence of a retrograde current of the blood in the emulgent veins, experiments and facts have been multiplied tending to prove the facts discovered by that celebrated physiologist—facts which the novelty of the idea and the contradiction to the known laws of the circulation which they entailed caused to be looked upon with much doubt. The works of Littré, de Robin, de Béraud, &c., leave little doubt now of the accuracy of this theory. We have no intention, however, of multiplying experiments and observations on this important physiological point. Those of M. Francheschi are of considerable interest.

The Italian physiologist opened the abdomens of some rabbits, and having drawn out a loop of intestine, he injected into the mesenteric vein a solution of atropine. At the end of half an hour it was discovered in the urine, although neither then nor afterwards did the animal show any symptoms of poisoning. On the contrary, the same dose injected into the jugular vein of another rabbit put an end to him very quickly before the atropine had time to arrive in the bladder. Is it not evident, then, that in the first instance the poison found its way to the kidneys by the abdominal veins without passing into the general circulation?

Here is another not less interesting experiment: M. Francheschi rendered a rabbit diabetic by the means proposed by M. Bernard, by pricking the central nervous centre. Scarcely had the rabbit shown the signs of glycosuria, when he killed him and collected in one vessel the blood of the emulgent veins, and in another that of the corresponding arteries. On being submitted to the action of a cupro-potassic liquid, the venous blood gave a red precipitate of oxide of copper, while the arterial gave no indication of the saccharine matter. "I could," says M. Francheschi, "multiply proofs that the urine is principally secreted by the venous blood," and he quotes the following case:—

A female, aged 30, rather spare than robust, and enjoying sufficiently good health to undergo the fatigue consequent on her position as a poor servant, was for six years in the habit of drinking never less than four or five gallons of water per day. Every two or three hours she was attacked, whether fatigued or not, whether in winter or summer, with so great thirst, that she was never satisfied unless she filled, and, so to speak, refilled her stomach. She drank at least six or eight glasses each time. At night her usual allowance was two gallons and a half of water, and even this frequently failed to assuage her burning thirst, and she has been obliged to get up to look for more. Scarcely had she drank when she was relieved by the bladder of colourless, inodorous liquid, which, in appearance, resembled pure water. In fact, on analysis, neither sugar, albumen,

nor any other product could be discovered; and so much did it resemble common water as to be with difficulty recognized as urine.—*Gaz. Médicale de Paris.*

2. *Researches on the Coagulation of the Blood.*—At a meeting of the Medico-Chirurgical Society of Edinburgh (December 16, 1859), JOSEPH LISTER, Esq., communicated some researches on this subject.

He reminded the fellows that in a paper read before them in 1858, he had brought forward facts which seemed to prove that the ammonia theory does not apply to blood within the vessels of a living animal. "The theory," he observed, "asserts that the fluidity of the blood depends upon the presence of a certain amount of free ammonia holding the fibrin in solution, and that coagulation is the necessary result of the escape of the volatile alkali. But it was shown in the paper referred to, that the blood, in man and other mammalia, though coagulating soon after death in the heart and great venous trunks, remains fluid for days in vessels of smaller size, and this under circumstances affording free opportunity for the escape of ammonia; and, on the other hand, that when a portion of a vessel either in an amputated limb or in a living animal is treated in a manner calculated to destroy its vital properties, the blood coagulates in the injured part, but retains its fluidity elsewhere, although there is no greater opportunity for the escape of ammonia in the one case than in the other. A striking instance of the difference between the natural receptacles of the blood and ordinary matter in their relations to the vital fluid happened to come under my notice this morning, in an arm which I amputated last evening at the shoulder-joint, on account of injury inflicted by machinery. On examining the limb, which had lain undisturbed since the operation, I saw that the axillary vein, which was patulous at the part where it had been divided by the knife, contained some blood at a distance of about half an inch from the open orifice; and having squeezed out a few drops, found that it was perfectly fluid, but yielded threads of fibrin when the point of a needle was drawn through it some minutes after emission. The blood had been for upwards of twelve hours freely exposed to the air, but being situated in an uninjured part of a bloodvessel, had remained free from coagulation.

"Further, in the opening meeting of last session I demonstrated another important principle, viz: That ordinary solid matter, unlike atmospheric air, induces coagulation of blood in its vicinity when introduced within the living vessels. Having inserted a piece of clean silver-wire for a considerable distance into one of the veins of an amputated sheep's foot, I slit up the vessel after a short time had elapsed; when I exhibited a coagulum extending along the whole length of the foreign body, whereas a mere wound of the vein failed to induce a clot except immediately at the spot where the injury had been inflicted. It was obvious that the introduction of the wire could not affect the amount of ammonia in the blood; and from this and many other facts to which I need not here allude,[1] I was led to the opinion, that as regards what takes place within the living vessels, the ammonia theory might practically be left entirely out of consideration.

"What I have to show this evening will, I think, prove that even for blood outside the body, the ammonia theory, whatever degree of truth it may contain, is very far indeed from representing the whole truth.

"One of the most remarkable circumstances connected with blood that has been shed from the vessels is, that it refuses to coagulate below a temperature of 40° Fahr. or thereabouts. This is explained by Dr. Richardson on the hypothesis, that the low temperature prevents the evolution of ammonia,[2] while the rapidity with which coagulation takes place at high temperatures seems to him satisfactorily accounted for by the increased volatility exhibited by the ammonia under such circumstances. I was myself at first disposed to accept this inter-

[1] For some of these facts see Philosophical Transactions for 1859, pp. 673 *et seq.*

[2] See Dr. Richardson's Astley Cooper Prize Essay, p. 303, where a fact is mentioned, indicating that no ammonia was given off at 34° Fahr. from a specimen of blood which had been artificially ammoniated, and which at 96° afforded distinct evidence of evolution of the alkali.

pretation; but subsequent reflection led me to think that, to say the least, it required confirmation. It occurred to me, that if it were true that the fluidity of blood below 40° was due to free ammonia retained in it, coagulation would take place immediately, in spite of the cold, if the alkali were neutralized by the addition of acid, provided the fibrin were not impaired in its coagulating property by the reagent employed. In order to ascertain whether this result would really follow, I poured blood freshly shed from a sheep into vessels surrounded by ice-cold water, and by this means succeeded in keeping some portions of it fluid for a considerable time, and found that it continued liquid notwithstanding the addition of dilute acetic acid in what I supposed must be sufficient quantity to overcome the feeble alkalinity of the blood, while the acidulated specimen retained the property of coagulating very rapidly when raised in temperature. But on attempting to discover whether this blood was really acid in reaction, I found that its red colour entirely vitiated the indications of both litmus and turmeric; and even the serum obtained after contraction of the clot was too much tinged to admit of the satisfactory application of the test paper.

"Being thus baffled in my experiments with the sheep, I had recourse to the horse, in which the red corpuscles subside with peculiar rapidity in the plasma, giving rise to the buffy coat well known to occur in the blood of that animal in the state of health, so that the opportunity would be presented of obtaining liquor sanguinis free from red corpuscles, to which the tests could be applied without risk of fallacy. Accordingly, yesterday afternoon, a horse having been placed at my disposal by my friend Mr. Gamgee of the New Veterinary College, I tied into the right jugular vein one end of a piece of vulcanized India rubber tube, four yards in length, the greater part of which was coiled up in a freezing mixture, and some of the blood, having been allowed to remain for a while in the tube, was shed into vessels standing in ice-cold water. Its temperature on first escaping into the air was 39½° Fahr., and having been since kept in the cold it is still only partially coagulated at the present time (twenty-nine hours after it was shed). At first, however, it appeared as if we were likely to fail, the blood of this horse being a rare exception to the general rule, in exhibiting for a long time no appearance of the 'sizy' layer. But after it had stood for about two hours, I succeeded in removing from the surface, by means of a glass tube, a sufficient amount of liquor sanguinis for the performance of an experiment, taking care that the glass into which it was shed, and the tube, were both near the freezing point. To half a drachm of this plasma I now added one minim and a half of moderately dilute acetic acid, which had the effect of rendering it distinctly acid, as indicated by its communicating a red tint to litmus and restoring the colour of turmeric paper which had been reddened by dipping it in the portion of the liquor sanguinis which had not been acidulated. I kept the specimen in ice-cold water till this evening. For a long time it remained perfectly fluid, except the formation of little soft coagulum at the surface, just as in the unacidulated blood; but a few drops placed in a watch-glass and brought into a warmer atmosphere, coagulated in about the same time as the blood that first flowed from the tube, a soft clot forming in about a quarter of an hour. Even at the expiration of twenty-four hours a portion of what remained in the cold was still fluid, though faintly acid, but set into a pretty firm clot on being removed into a warmer situation.

"[Mr. Lister now proceeded to perform a similar experiment before the society. A glass containing some liquor sanguinis of the horse's blood shed twenty-nine hours before, was taken out of the mixture of ice and water in which stood, and the contents were seen to be still to a considerable extent fluid, although acidulated with acetic acid two hours previously. A portion of the liquid was poured into a watch-glass, and, having been shown to be acid by litmus paper, was set aside to coagulate, and about a quarter of an hour later was exhibited as a soft clot. Mr. L. then continued—]

"From these facts it is obvious that the ammonia theory utterly fails to explain the influence of temperature on coagulation. The circumstance that the liquor sanguinis was acid in this experiment is clear proof that it contained no free ammonia whatever; yet the acidulated plasma was affected by cold and heat, just like ordinary blood. It remained fluid near the freezing point, although

the ammonia it originally contained must have entered into combination and lost its reputed power of dissolving the fibrin, and it coagulated when warmed, though the ammonia, fixed by the acid, must have been incapable of evolution. If the author of the ammonia theory were asked to explain why this horse's blood took a quarter of an hour to coagulate, he would no doubt reply that it must have contained a large amount of ammonia, requiring all this time to escape. But we have seen that the acid liquor sanguinis, though possessing no free ammonia at all, took as long to clot. There can therefore I think be little question but that the slowness of coagulation in the horse, compared with the rapidity of the process in the sheep, and the variations met with in the period in the human species, depend not on the amount of ammonia present in the blood, but on differences in its other constituents, and, speaking generally, that the theory which attributes the coagulation of the blood to the escape of ammonia is fallacious."[1]—*Edinburgh Med. Journ.*, December, 1859.

3. *Saccharine Function of the Liver.*—Dr. GEORGE HARLEY, in a paper read before the Royal Society (Feb. 2, 1860), related a number of experiments which he performed, in concert with Prof. Sharpey, in the Physiological Laboratory at University College. The results of these experiments do not in any way countenance the notion that sugar is not produced in the healthy animal body; but, on the contrary, such conclusions as they afford are altogether in favour of the following generally received views upon the subject: 1. Sugar is a normal constituent of the blood of the general circulation. 2. The portal blood of an animal fed on *mixed* diet contains sugar. 3. The portal blood of a *fasting* animal, as well as of an animal fed solely on *flesh*, is devoid of sugar. 4. The livers of healthy dogs contain sugar, whether their diet be animal or vegetable. 5. Under favourable circumstances, and with proper precautions, saccharine matter may be found in the liver of an animal (a dog) after three entire days' rigid fasting. 6. The sugar found in the bodies of animals fed on *mixed* diet is partly derived directly from the the food, partly formed in the liver. 7. The livers of animals restricted to flesh diet possess the power of forming glucogene, which glucogene is, at least in part, transformed into sugar in the liver. 8. As sugar is found in the liver at the moment of death (even when the plan of freezing it has been strictly attended to), its presence cannot properly be ascribed to a post-mortem change, but it is to be regarded as the result of a natural condition.—*Medical Times and Gaz.*, Feb. 11, 1860.

4. *On Nutrition by Blood in Starvation.*—Experimental researches made on animals subjected to a more or less absolute privation of food have shown that life may be maintained for a certain period at the expense of the substance of the organs, as is proved by the progressive diminution of the weight of the animal suffering from inanition. This mode of nutrition has long been

[1] Since the above communication was made, I have seen for the first time the able essay of Dr. E. Brücke, which competed for the Astley Cooper Prize (see *Med.-Chir. Review*, vol. xix.); and I find that the principle which he advocates—viz., that the fluidity of the blood within the living body depends upon an action of the walls of the vessels upon it—is supported by many facts which he has observed in the chelonian reptile, very similar to what I have made out in mammalia. Thus, he found that the blood remained fluid in the heart of the turtle for days after death, and for several hours after he had blown air through the veins of the neck, so as to make a foamy mixture in the cavities of the organ. He also found, as had been previously ascertained by Virchow and others, that after the introduction of mercury into the heart the blood coagulated about the globules of the metal, but not elsewhere, and this he regarded as an example of the influence of ordinary matter in inducing coagulation in its vicinity. He also succeeded with the following very striking experiment, which would not answer with mammalia: He drew blood into a cup from the veins of a living turtle, and injected it into the empty heart of another turtle just killed, and found that the blood remained fluid for several hours in its new situation, instead of coagulating in a few minutes as when retained in a cup.—J. L.

termed *autophagy;* and M. Auselmier wishes to designate it as *spontaneous autophagy*, as a contrast to the term *artificial autophagy*, which he employs when the animal subjected to inanition is submitted to daily small bleedings, and his blood given him as aliment. He has made a great number of comparative experiments upon two groups of animals, resembling each other in every circumstance as far as possible—one group being abandoned to the effects of inanition, and the other exclusively fed with the blood drawn from the veins of the animals experimented upon. The following are the results deducible:—

1. The absolute privation of food diminishes the production of caloric in all warm-blooded animals. The diminution is nearly uniform during three-fourths of the duration of vital resistance, that is, about 0°.2 C. in every twenty-four hours. During the last fourth of the time it decreases very rapidly, and death occurs between the 23° and 24° C. 2. A relative privation of aliment causes a less rapid diminution of the production of caloric, proportionately to the rations. 3. In all animals of warm blood the temperature of the blood cannot descend below 26° C., without death being the consequence. 4. Death from starvation is the result of an arrest of nutrition produced by the progressive diminution of the temperature of the animal—the production and accumulation of a certain quantum of caloric being one of the conditions of nutrition in all animals of this class. 5. Death by starvation would not be the result of the consumption of all the materials which the organism can supply if we could change the condition of cooling which is the consequence of inanition. In fact in the animals who have succumbed from absolute abstinence, the emaciation is on the average four-tenths of the initial weight, while in relative abstinence it may attain six-tenths. 6. The diminution of calorification arises from the inactivity of the gastro-intestinal absorbent system, the temperature of the animal increasing or diminishing according to the degree of the activity of this function, just as the latter is modified by the temperature at which it effects its operation. 7. If we draw from animals subjected to inanition a certain amount of blood, and give it them as an aliment, we find the production of caloric continues, together with the gastro-intestinal activity, the daily loss of temperature being less considerable, and the emaciation becoming more complete, so that it may attain six-tenths of the initial weight. 8. The bleedings and the rations which they supply should be diminished in quantity in proportion to the prolongation of the experiment; and digestion takes place more completely and more rapidly in proportion to such prolongation. In proportion to the frequency of the bleedings, the exhaustion of the organism, the nervous irritation, the diminution of the gastro-intestinal secretions essential to digestion, the monotony of the aliment, the diminution of the temperature, and the putrefactive condition of the aliment, the prolongation of this mode of nutrition becomes impossible. 9. The gastro-intestinal activity is indicated by the return of the excretions, the elevation and generalization of the temperature and pulse, an increase of muscular force, and the diminution of nervous phenomena, and of the sensations of hunger and thirst. 10. The calorification does not decrease more than a mean of 0°.1 C. in the twenty-four hours. 11. Artificial autophagy allows of excessive emaciation, *i. e.* allows of its being carried to six-tenths in fat subjects, five-tenths in medium subjects, and four-tenths in the young; while the author's and Chossat's experiments show that in spontaneous autophagy it attains only five-tenths in the fat, four-tenths in the medium, and two-tenths in the young. 12. Artificial autophagy thus considerably prolongs life, viz., for nearly one-half more than its duration in spontaneous autophagy. The application of the author's views may be made in the case of shipwrecked persons, or others subjected to the horrors of starvation.—*Comptes Rendus*, December, No. 24.

—

5. *On the frequent Occurrence of Phosphate of Lime in the Crystalline Form in Human Urine.*—By Arthur Hill Hassall. It is commonly stated by writers on the chemistry and pathology of the urine, that phosphate of lime never occurs in the renal excretion in the crystalline form, but always presents itself as a granular amorphous deposit.

The author has shown in this communication that deposits of phosphate of lime, in well-marked and highly characteristic forms, are of frequent occurrence

in human urine, very much more so indeed than the amorphous deposits of that salt, which are comparatively rare and exceptional.

It follows, therefore, that the statements hitherto advanced, of the absence of crystallized phosphate of lime from the urine of man, are erroneous.

From the frequency of their occurrence, it is singular that the true nature of these crystals should have been so long overlooked. This, the author considers, cannot have arisen from the crystals themselves, at least in some of their various modifications, not having been observed, but rather from their having been confounded with those of the phosphate of ammonia and magnesia, from which, however, they differ as much in form as in composition.

The author considers the occurrence of deposits of phosphate of lime to be of deeper pathological significance than those of phosphate of magnesia or phosphate of magnesia and ammonia. While the greater part of the phosphoric acid of these latter phosphates and all their magnesia are derived from the ingesta, there is in the animal organism in the bones several pounds' weight of phosphate of lime, from which, in some cases, and in certain maladies and conditions of the system, the deposits of that substance encountered in the urine are doubtless obtained.

The communication was illustrated by a series of drawings, exhibiting the several varieties in the form and grouping of these crystals observed by the author.—*Proceedings of Royal Society.*

MATERIA MEDICA AND PHARMACY.

6. *On the Chemical Composition and the Medical Employment of the Oils from the Liver of the Cod, the Skate, and the Dog Fish.*—M. DÉVERGIE has made a report to the Academy of Medicine of Paris, on a memoir by Dr. DELATTRE on this subject.

M. Delattre resides at Dieppe, and has therefore abundant opportunities of obtaining a perfectly pure oil, but up to the present time the purest oils have been procured in contact with the air. M. Delattre, however, has devised an apparatus for isolating the oil from the influence of the atmosphere. This object is effected by expelling the atmospheric air from the vessels in which the oil is extracted from the livers, and replacing the air by carbonic acid. By this process the operator avoids the formation of the oleic, sulphuric, and phosphoric acids, which would otherwise be formed. M. Delattre having thus obtained pure specimens of oil, he made twelve analyses of each kind, and he tabulates the quantitative and qualitative results, from which it appears that all the oils contain a very large proportion of oleine, with some margarine, and some very small quantities of chlorine, iodine, bromine, sulphur, and phosphorus. M. Delattre also ascertained that the iodine, bromine, chlorine, phosphorus, and sulphur are not in combination with the potassium and sodium, as was formerly supposed, but are in a free state. Another important fact was ascertained by MM. Delattre and Girardin—namely, that in the spring of the year cod-liver oil does not contain a particle of iodine. It is also ascertained that the livers do not yield an equal quantity of oil at all periods of the year; that the quantity increases from June to November, and then diminishes from November to March, when it is at its minimum. In comparing the chemical composition of the oils from the cod and the skate, it is found that the proportion of iodine is less by half in the latter oil, and that that of sulphur is less by a fourth; but on the contrary, that the proportion of phosphorus is greater by about a third. As to the dog-fish oil, it is richer in phosphorus and iodine than cod-liver oil, and contains rather less bromine and sulphur. The increase of iodine is double the loss of the bromine. Compared with the skate-oil, it contains two-and-a-half times more iodine, and only a fifth less of phosphorus. Chemically, therefore, it is richer in inorganic elements than the cod and skate oils, except as to the proportion of phosphorus in the latter. M. Delattre has extended his researches

to the chemical properties of the different varieties of cod-liver oil, and has analyzed, respectively, the pure, the amber-coloured, the light, the brown, and the black oils. From these analyses he draws the conclusion (which has already been established), that in passing from the purest to the black oil, there is a decreasing progression in the quantity of the inorganic constituent.

Those who explain the mode of action of cod-liver oil by reference to its chemical elements, attribute especial efficacy to its iodine, bromine, and phosphorus; but the fact is, that all the varieties of oil differ very slightly in the proportion of these ingredients. A physician, therefore, who employs the various kinds of oil, will find very little difference in their operation; for it is of little importance whether, in twenty-seven days, a patient takes 6¼ grains or 6¼ grains of iodine, or 4 grains or 3⅛ grains of phosphorus, and so forth. M. Dévergie cannot agree in the views of those chemists who propose to supply the fish-oils by artificial oils; not because he overlooks the therapeutical importance of iodine, bromine, phosphorus, and sulphur with cod-liver oil, but because he thinks that the curative effect does not reside *solely* in those chemical elements. It is to the association of elements by nature that the special action of medicines is due, and these effects cannot be obtained when the elements are in an isolated state.

M. Delattre, in treating of the medical properties of the oils from the cod, skate, and dog-fish, arrives at the following conclusions: 1. That the physiological action of the fish-liver oils is the same, whatever may be the kind of oil employed. 2. These oils may be considered as succedaneous to one another, and may all be employed in the treatment of scrofulous, cutaneous, and rheumatic affections. 3. There are affections which more particularly require the employment of some one oil. Thus, the cod-liver oil is more efficacious in scrofulous phthisis than the skate or dog-fish oil. The skate oil effects more rapidly the cure of serous diarrhœa, and of mesenteric engorgement in children during dentition; indeed, this is the only remedy employed by M. Delattre in such cases, which are very frequent at Dieppe. The skate oil also succeeds better than the other oils in the treatment of cutaneous diseases and of chronic rheumatism. 4. The dog-fish oil appears to exercise a special action upon alterations of the bones, and in all cases it may be advantageously substituted for cod-liver oil. M. Delattre does not even hesitate to give it a marked preference in the treatment of scrofulous affections. In reporting upon these views of M. Delattre, the Commission offers no decided opinion upon their validity, as time and experience will be necessary to confirm or confute them; but it has endeavoured to solve one of the propositions—namely, whether dog-fish oil can be advantageously substituted for cod-liver oil, and if it may not even be preferable to it in some cases. This question is of the more importance because the cod fishing sometimes fails, while that of the *squalus catulus* (the dog-fish) never fails; and because the cod is a fish of a certain value, always meeting with purchasers, while the dog-fish is of no value at all, and is usually a source of annoyance rather than profit to the fisherman. The dog-fish oil sent to the Commission was very limpid, of a clear yellow colour, of a less powerful smell than that of cod-liver oil, and of a less disagreeable taste. Its effects were tried upon twenty patients in the Hôpital St. Louis, and to all of them the dog-fish oil was administered for a week instead of the cod-liver oil: two only of the number gave the preference, as to taste, to the brown cod-liver oil. A patient in whom the use of the cod-liver oil was suspended at several intervals and then relinquished altogether, was able to bear the dog-fish oil in a large dose until he was cured. This was not an isolated case, for in another instance a patient was able to bear the dog-fish oil, although he could not endure the cod-liver oil. Out of twenty patients who took dog-fish oil at the same period, eighteen preferred it to cod-liver oil; and, on the other hand, some patients who could not tolerate the cod-liver oil, were able to take the dog-fish oil; but still some persons could not tolerate either the cod-liver oil or the dog-fish oil. With regard to the therapeutical properties of the dog-fish oil, M. Dévergie, as the result of his observations, arrives at the conclusion that this oil produces all the effects of cod-liver oil, and cures with the same rapidity, so that it may be regarded as equally valuable with the latter oil. But further observations by other physicians have not altogether confirmed this view, and therefore the evidence before the Commission

is at present insufficient to justify the formation of a definitive judgment as to the real value of the dog-fish oil, and the more special indications which it is calculated to fulfil; but it is sufficiently established that this latter oil may be substituted for cod-liver oil, a fact of considerable importance, since cod-fish is often scarce and dear, while the dog-fish is always too abundant and very cheap. —*B. and F. Med.-Chir. Rev.*, Jan. 1860, from *Bull. Gén. de Thérap.*, May 15, 1859.

7. *Deodorants.*—Dr. THOMAS SKINNER, of Liverpool, draws attention (*Brit. Med. Journ.*, Dec. 3, 1859) to the claims of certain substances as deodorants, particularly tar-water. His attention was drawn to this subject from his having been called to a case of advanced scirrhous cancer of the uterus, the offensiveness of the discharge from which was so great and indestructible that soap and chloride of lime failed to deodorize his fingers for hours.

To save others the trouble of repeating his experiments, he states the means he tried, and their relative success.

1. *Condy's Disinfecting Fluid* (*purple*).—This fluid, which is probably a concentrated solution of the permanganate of potass, was used in the proportion of two drachms to a pint of water as a vaginal injection three times a day. The proportions were rapidly increased up to one fluidounce to a pint of water. The result was in every way satisfactory.

"One great advantage in the use of the permanganate," says Dr. S., "is, that it has no smell of its own, and that, being soluble, it may be used either in the form of a medicated pessary, or in that of an injection. Its lovely *mauve* colour renders it both fashionable and pleasing to our patients. From my experience of its use, I can confidently recommend it in the proportion of one fluidounce to a pint of water, as a deodorant in cancer of the uterus; a cupful to be used as an injection thrice daily, and the strength to be increased, if found necessary."

2. *Decoction of Daucus Carota or Common Carrot.*—Being aware of the great value of a carrot poultice in deodorizing bad smelling abrasions, &c., Dr. S. ordered the patient to inject a warm concentrated decoction of the common carrot. The smell and irritation were allayed by this, but the former was not annihilated.

3. *Disinfecting Powder and Paste of MM. Corne and Demeaux.*—To this powder was added enough olive oil to form a paste of sufficient consistence for vaginal pessaries. The mass was divided into balls, which were dipped in the usual solution of wax, lard, and oil.

"So far as deodorizing and even lessening the amount of the discharge is concerned, the pessaries were certainly most effectual; but to the use of such means in the treatment of carcinoma uteri, there are insuperable objections, viz:—

"*a.* The *coal* tar in itself is exceedingly disagreeable to the olfactory organs of females, however little it may affect those of M. Velpeau. This objection, however, may be waived by adopting *vegetable* instead of *coal* tar in forming the powder.

"*b.* The discharge is absorbed by the sulphate of lime, which swells to some extent, sets hard, and becomes a source of considerable irritation.

"*c.* As such medicated pessaries do *not* dissolve, they accumulate, until removed by a second party.

"*d.* The surface of the ball comes first into contact with the discharge, and the plaster of Paris setting, prevents the interior of the ball from being of any use.

"*e.* Applied as a powder, it is worse than useless, as it cakes or sets, and forms fragments which are very disagreeable to the patient, and exceedingly difficult of removal."

4. *McDougall's Disinfecting Powder; Vegetable and Animal Charcoal, etc.*—None of these or any other insoluble substance were tried, as Dr. S. believed, fluids should be preferred.

5. *Chlorides of Zinc and Iron, etc.*—The deodorant and useful properties of these are so familiar to all, that Dr. S. says comment on them is unnecessary.

The same, he says, may be said of the

6. *Chlorates, Hypochlorites, and Hyposulphites;* none of which he tried in this case.

7. *Metallic or Mineral and Vegetable Astringents;* such as the sulphates of alum and zinc, and the acetate of the latter metal, also solutions of tannin were tried. Comparatively speaking, they were all more or less effectual in deodorizing and lessening the discharge, but very much inferior as deodorants to the substances previously made use of.

8. *Solution of Naphtha and Creasote.*—"This preparation is highly commended by Dr. Lionel Beale for preserving moist specimens for the microscope. As I had some of it made by myself, I gave it a trial upon a small scale; and it was so satisfactory, that I am induced to give the formula. The only objections to its general use are, the smell of creasote, and the length of time required to prepare it. It is as follows: 'Creasote, three drachms; wood naphtha, six ounces; distilled water, sixty-four ounces; chalk, as much as may be necessary. Mix first the naphtha and creasote; then add as much prepared chalk as may be sufficient to form a smooth thick paste; afterwards, add very gradually the water, and mix well in a mortar. Add two or three small lumps of camphor, and allow the mixture to stand in a lightly covered vessel for a fortnight or three weeks, with occasional stirring. Pour off the almost clear supernatant fluid, and filter it if necessary. Preserve it in well-corked or stoppered bottles.' (*The Microscope in Clinical Medicine*, 1st ed., p. 87.) This preparation, when carefully made, is highly *antiseptic*—a property which cannot be said to be possessed by the powders or pastes of MM. Corne and Demeaux, if Mr. May's experiment can be considered as decisive. (*Journal*, Oct. 15, 1859, p. 832.) I feel certain that, in hospital practice, such a preparation, variously diluted, and tar-water, would be found of great service as addendæ to the water-dressing of wounds and ulcers, possessing, as they do in a very high degree, deodorant and antiseptic, along with stimulating, astringent, and consequently cleansing and healing properties. In point of cleanliness, they are every way superior to the preparations of MM. Corne and Demeaux. For reasons already given, the naphtha and creasote solution is not so available in general practice."

9. *Solution of Lead and Creasote.*—"The following was attended with very good effect: R.—Plumbi acetatis ʒj; acidi acetici ʒss; creasoti ♏x. Misce, et dein adde gradatim, misturæ camphoræ Oj. Solve. Sig.—A teacupful for injection twice or thrice daily.

"The creasote may be increased to thirty minims, if thought necessary. Creasote dissolves the acetates, the acetate of silver excepted; and is itself freely soluble in acetic acid. The acetic acid and the camphor serve to mask the odour of the creasote; and a few drops of any essential oil may be added for the same purpose, with the best effect, as creasote is soluble in most of them."

10. *Iodine.*—"I have not yet had an opportunity of trying the effects of iodine, as recommended by M. Marechal (de Calvi) to the Academy of Medicine of Paris, on August 8th last. Its undeniably powerful antiseptic properties, as proved by M. Duroy, and its being easily soluble, either in the form of a lotion for injection, or in the form of an ointment as a pessary, are sufficient reasons, in my estimation, for giving it a fair trial as a deodorant in carcinoma uteri, and other affections attended with offensive discharges."

11. *Tar-Water. Aqua Picis Liquidæ, D.*—"While reading a report of the discussion on deodorization between MM. Renault and Velpeau lately, I observed that it was merely a matter of economy and of olfactory preference, which made the difference between the use of coal and vegetable tar in the manufacture of the disinfecting powder; and, as I was much inclined to believe that the tar, or one or more of its active principles, is the essential ingredient, I determined to try the effect of the injection of tar-water. I was strengthened in this idea by having read the eulogiums passed upon it by Bishop Berkeley and others, and in the pages of the *Medical Commentaries*, alluded to by Dr. Mackenzie at the meeting of the Medical Society of London, on October 24th.

"My patient has now used it undiluted for a month or more, and is likely to continue its use, as its beneficial effects have far surpassed my most sanguine expectations. The discharge has much decreased, and is for the present at a

minimum. The foul smell entirely disappeared on the first day she used the tar-water as an injection; and, in its stead, the apartment, the bed, and the patient, have a mild and really refreshing aroma of a shipbuilder's yard in the distance. The patient and her friends have become so accustomed to this slight, and rather agreeable odour, that they are not now sensible of its existence; and they, as well as myself, can bear evidence that none of the many measures adopted for the purpose of deodorizing the discharge, have been so eminently successful as the simple injection of tar-water."

Formula for Tar-Water. "*Aqua Picis Liquidæ, D.*—Tar, lb. j; water, cong. j; mix, stirring with a stick for a quarter of an hour; as soon as the tar has subsided, strain the liquor, and keep it in well-closed jars." (Neligan's *Materia Medica*, 3d ed., p. 374.)

"*Properties.*—Tar-water ought to be perfectly clear, and of a pale sherry or amber colour. It has a bitter, resinous, and considerably acid taste; and a slightly creasotish, but rather agreeable empyreumatic odour. It reddens litmus-paper, and has a density of about 1.005. "The volatile oil in tar-water is partly held in solution by acetic acid, which, as is well known, dissolves creasote. It (tar-water) consists of water holding in solution acetic acid and pyrogenous oil and resin." (Pereira's *Materia Medica*, p. 1205.) The late Professor Royle says, that tar-water contains "creasote and other matters in solution." (*Manual of Materia Medica*, p. 647.)

"*Mode of Administration.*—By the aid of Higginson's invaluable syringe, a tepid solution of soap and water is first to be injected; and, immediately thereafter, a breakfast-cupful or more of undiluted tar-water. This should be done twice a day, if the patient's strength will admit: hitherto, a more frequent use of it has not been required. It is necessary that the tar-water should come into contact with the ulcerated surfaces: therefore, the recumbent posture is preferable, and a long vaginal nozzle to the syringe is of advantage. If there is an intelligent, handy nurse in attendance, and the ulcerated cavity is extensive, and its lips lobulated and lapping over each other, a piece of lint saturated in tar-water, with a piece of tape or thread attached to it, may be inserted within the cavity, or the point of the nozzle may be directed into the ulcerated cavity before injecting.

"Lastly, as important in itself, and as bearing upon the action of many of the substances alluded to, I would briefly call to remembrance the well-known properties of

"12. *Creasote*, which literally signifies flesh-preserver (from κρέας, flesh, and σώζω, I preserve). It is the most important of the products obtained from wood-tar by Reichenbach, in 1830. It dissolves several salts, particularly the *acetates*, the acetate of silver excepted, which it reduces. It is itself completely soluble in acetic acid, wood naphtha, and alcohol, in most volatile oils, in the alkaline solutions, and in from eighty to one hundred parts of water. Like the chlorides of iron, mercury, zinc, and other caustics, it is a powerful coagulator of albumen; but, unlike these agents, the insoluble compound which it forms with the tissues *resists putrefaction*. In fact, it is the best known antiseptic; consequently, it is a powerful deodorant. Finlay Dun says: "It is believed to have been the essential agent used in embalming the Egyptian mummies. It is extensively employed in preparing various dried meats, and might be used for preparing subjects for dissection, by dissolving it in acetic acid, and injecting the solution into the veins. . . . Externally, it acts beneficially as a stimulant and astringent, an antiputrescent and deodorizer." (*Veterinary Materia Medica*, pp. 199, 200.) Of the use of creasote as a deodorant in carcinoma uteri, I believe that Dr. Copland was among the first who employed it. (*Cyclopædia of Practical Medicine*, vol. iii. p. 1283.)

From the foregoing experiments and observations, Dr. S. is of opinion—

1. That creasote, or its analogue carbolic acid, or some such empyreumatic product, is the active ingredient in the disinfecting powders of MM. Corne and Demeaux, of Messrs. Smith and McDougall's patent, and of the majority of our best disinfectants which smell of or contain such ingredients.

2. That, as the powder of MM. Corne and Demeaux is something more than nsoluble; that, as it sets and becomes hard, and is otherwise objectionable—its

use, however effectual as a deodorant, is impracticable so far as carcinoma uteri is concerned.

3. That in the treatment of cancerous ulceration of the uterus, a fluid or soluble deodorant is much to be preferred.

4. That the order in which I rate the various liquid and soluble deodorants I have drawn attention to is as follows:—

a. Tar-water (*Aqua Picis Liquidæ, D.*)

b. Condy's disinfecting fluid (purple), one ounce to the pint; or the permanganate of potass as a vaginal pessary of two drachms, from ten grains to a scruple in each.

c. Solutions of creasote: the lead and creasote (No. 9); the naphtha and creasote (No. 8); or vaginal pessaries of two drachms, from five to ten minims of creasote and ten grains of camphor in each.

d. Solutions of the chlorides, chlorates, hypochlorites, and hyposulphites.

e. Metallic or mineral and vegetable astringents.

f. Decoction of the *Daucus Carota*, or common carrot, particularly if any of the others should prove irritating, and an emollient requisite.

—

8. *Water-glass, a Partial Substitute for Collodion.* By Dr. KUCHENMEISTER. —*Preparation of water-glass* (Lehmann's Taschenbuch d. theor. Chem.). If ten parts of potassa are melted together with fifteen parts of powdered quartz, and one part of charcoal, a blackish-gray glass is obtained, which is soluble in five parts of water; on evaporating this solution, an opalescent, semi-fluid mass is formed, which has an alkaline taste and reaction, and does not absorb carbonic acid from the air; by slow evaporation it is formed into a glassy mass of conchoidal fracture, unchangeable at the atmosphere; it is this water-glass = $3KO, 8SiO_3$. A similar substance is obtained with soda.

The author has used this substance as an external application in cases of bee-sting, with an excellent result, and has found it to diminish the pain and swelling very promptly. He explains its efficacy partly by the circumstances that the alkaline water-glass neutralizes the acid of the bee's poison (formic acid), partly by the fact that on evaporating slowly on the skin—similar to collodium, but somewhat slower—it forms a smooth and even coating, which protects the wound from the entrance of air, dust, and other foreign substances. Water-glass may thus be usefully employed:—

1. *In cases of bites and stings of such animals which introduce an acid poison into the wound*, viz., bees, humble-bees, wasps, hornets, gnats, mosquitoes, bugs, toads, perhaps also snakes. But the author recommends the remedy particularly in cases in which ticks, sand-bugs, lepti autumnales, and crab-lice have bitten themselves into the skin, as the removal of the parasite is much facilitated by the application, the coat formed by the water-glass suffocating the animal by obstructing the tracheal openings which project from its body.

2. The application of water-glass proved also very efficacious in a case of *erysipelatous inflammation* of the hand in a child; in erysipelas ambulans of the face, the author has not been so successful with the remedy. Whether it could be used with advantage in mastitis, skin diseases of different nature, particularly those of the humid kind, or in tetter, with an acid reaction, remains to be ascertained; in herpes circinatus it is very useful.

3. Water-glass is one of the best means *to cleanse the skin* from tar, varnish, residues of plaster, etc.; it may perhaps be also usefully employed to clean the scalp in disease of the hair.

It is inferior to collodium in respect to tenacity, and is therefore less applicable in gaping wounds; in cases in which a coating is required to be durable if immersed in water, it cannot be used at all. In order to avoid its crumbling off, the coating ought to be renewed from time to time. *It is preferable to collodium*, on account of the greater readiness with which it can be removed.—*Ranking's Abstract*, vol. xxx.

MEDICAL PATHOLOGY AND THERAPEUTICS, AND PRACTICAL MEDICINE.

9. *Epidemic of Diphtheria.*—Dr. R. W. CRIGHTON, of Chapel-en-le Frith, gives (*Edinburgh Medical Journal*, February, 1860) an instructive account of an epidemic diphtheria, which occurred last year in his neighbourhood. He attended 45 cases, of which 25 were males, and 20 females. In all, the disease appeared on the fauces, or fauces and air-passages—the only exception being a case of diphtheria of the vulva, in a child aged 1 year and 9 months, the youngest of those he saw. The oldest was 44 years of age; 12 were under the age of 5; 25 under 10; and 35 under 15 years.

Of the 45 cases, 9 proved fatal, or 1 in 5; of these, 6 died by *asphyxia*, from extension of the disease to the air-passages, and 3 by *asthenia*, after all traces of the exudation had disappeared, and without any evidence of embarrassed respiration.

With regard to the treatment, Dr. C. says: "Every one, I believe, who has seen much of genuine diphtheria, will at once exclude it from the list of 'self-limited disorders,' and will readily admit the truth of the statement made by Bretonneau,[1] 'that it is the nature of diphtheritic inflammation to encroach from spot to spot, and not to be extinguished on the points which it previously occupied; . . . and if the most efficacious therapeutical plans are not directed against these tendencies, that the extension of the disease into the air-passages cannot be prevented.'

"The first three cases that came under my care were treated with local applications of a strong solution of nitrate of silver, and chlorate of potash internally, and they all proved fatal.

"Having been for several years[2] convinced of the great value of the muriated tincture of iron in erysipelas and many other forms of inflammation, I determined on trying the remedy in diphtheria; and finding that Dr. Heslop, of Birmingham, had employed it with great success in this disease, along with the application of muriatic acid to the affected surface, I adopted this method of treatment in six cases. Of these, two died; but the disease was so far advanced in both, when I first saw them, that their prospect of recovery, under any treatment, was very small indeed.

"In watching the progress of some cases which occurred soon afterwards, I became convinced that stimulating the cutaneous circulation, and promoting diaphoresis in the early stage of the affection, were valuable additions to the treatment.

"I accordingly, during the remaining part of the epidemic, gave for the first few days from a drachm to two drachms of the liq. acet. ammoniæ, along with the tinct. ferri muriat., in doses of from four to eight minims, every two or three hours.

"The local application which, after many trials, I found most generally useful, was a mixture of equal parts of dilute muriatic acid and the muriated tincture of iron, with a varying proportion of water according to the age of the patient, but never exceeding the amount of the acid and the tincture. The importance of *early* local treatment in diphtheria is very great—as great, I believe, as the early performance of the crucial incision in a case of carbuncle; for though it is true that diphtheria is formidable as a constitutional affection, and sometimes proves fatal, after all local traces of the disease have disappeared, still, the risk of invasion of the air-passages by the deposit, and the increasing severity of the general symptoms, while the exudation extends, at once suggest the necessity of endeavouring to limit it.

"When applied to the exudation in its early stage, the acid mixture coagulates, and loosens it so completely, that it is generally adherent to the surface

[1] Memoirs on Diphtheria, New Sydenham Society, p. 138.
[2] Monthly Journal of Medical Science, Dec., 1852.

of the sponge (or, what I have generally used, a strip of lint tied round a thin piece of wood with a rounded extremity), or expectorated shortly afterwards. It may reappear subsequently at other points, which require the same treatment. When the pellicle has existed for several days, the application of the acid mixture causes it to shrivel and become dark in colour, and seems to check the serous secretion proceeding from it so as to oppose its specific action on the adjacent mucous membrane. The application, during the first few days, was generally repeated twice in the twenty-four hours.

"Throughout the progress of the disease, I found alum gargles useful in checking the excessive secretion from the mouth and fauces. I had not treated many cases before I found the necessity of resorting (in most cases from the very commencement) to stimulants, and the most strongly nutritive diet, as brandy and beef-tea; and these, in general, could not be withdrawn until an advanced period of the convalescence. After the first few days, and when, in general, diaphoresis had been established, I discontinued the use of the acetate of ammonia, and substituted quinine, dissolved in the muriated tincture of iron; a combination which was of great service in restoring tone to the system. Cod-liver oil, also, was in many scrofulous-looking subjects, who suffered severely from diphtheria, of great value in this respect. I did not employ mercury in the cases of diphtheric croup, as the report of the trials made by Bretonneau did not offer much encouragement, and as most of the subjects so affected presented strong indications of the scrofulous diathesis; the sulphate of copper was used in two cases; and in one, as formerly noticed, with success.

"Tracheotomy was proposed in one case, but was declined by the parents, on the ground of their having heard of a case in which it had shortly before been performed with a fatal result.

"In conclusion, I may mention that, of the last nineteen cases treated, as I have endeavoured to describe, only one died; and this great diminution in mortality I ascribe not so much to the diminished virulence of the epidemic, as, in part, to a more suitable method of treatment having been adopted than at the commencement, but chiefly, to nearly all the later cases having been seen early."

—

10. *On the Epidemic of Variola in the Canton of Geneva in* 1858–'59.—The following is the summing up of M. Marc D'Espine's elaborate memoir on this subject:—

"The epidemic of 1858–'59 has been by far the most severe of all those which have visited the canton since the introduction of vaccination. It attacked 21 individuals in 1000 inhabitants, and gave rise to 2.3 deaths, one-half of these depending upon a hemorrhagic cause. There are probably few of the countries of Europe which have been recently visited by this disease that have paid so large a tribute to it as the Canton of Geneva. The *mortality* has been 10.8 per 100 cases—45 per cent. in the non-vaccinated and 9.5 per cent. in the vaccinated. How considerable this proportion is may be judged by the results of the inquiry instituted by the London Epidemiological Society, from which it resulted that the mortality in different countries of Europe oscillated between 0 and 12 per cent. in the vaccinated, and between 15 and 53 per cent. in the non-vaccinated. This great mortality of Geneva, exceeding that of any other locality or town situated in the basin of the lake, is explicable by the large number of cases of *hemorrhagic variola*.

Complete unanimity exists among the documents furnished upon the Genevese epidemic, and those derived from other countries as to the greater liability of *males*. The relation is four to seven females for ten males, according to the epidemics or localities.

The *elective age* of natural variola is childhood and infancy. In countries in which vaccination is but little or not at all practised, variola attacks but few adults; but in proportion as a population has been more generally, and for a longer period, submitted to the vaccine influence, variola attacks a larger proportion of the older vaccinated, and spares children protected still by recent vaccination. In those countries in which nearly the whole of the new-born infants have been vaccinated for a long time past, it is from the twentieth to the

twenty-fifth year that variola attacks most of its subjects; children below ten years being rarely affected.

Revaccination, made at opportune periods, greatly increases the chances of preservation, and evidently alleviates the disease in those individuals whom it has not been able to secure against the attack. It seldom succeeds in producing satisfactory pustules until after ten years of age. On this account, then, and because the first vaccination affords sufficient protection at least until ten years, it is at about from the twelfth to the fifteenth year that the first revaccination should be performed. A second may be resorted to at about the age of thirty; but this is of less consequence than the first, inasmuch as the examination of facts show that the chance of contracting variola diminishes much after the age of thirty. Nevertheless, just as the more general practice of vaccination has transposed the age of the maximum of frequency of variola from infancy to the fifteenth, twentieth, or even the twenty-fifth year, a generalization of the practice of revaccination at about the twelfth or fifteenth year may thrust back this maximum beyond thirty years; and we may predict that with the progress of primary vaccination, a second towards the thirtieth, and even a third towards the fortieth year, may one day become requisite. Vaccination or revaccination, practised even at the height of an epidemic, when complicated by an immediate invasion of the variola, neither modifies the progress of this, nor is itself modified by it. We may therefore vaccinate during an epidemic with impunity.

It would seem that a first variola preserves somewhat more certainly from variola than a first vaccination; but that if variola does supervene, that which is secondary is more fatal than is the varioloid following vaccination.

Cow-pock appears to succeed somewhat better than the chain of Jennerian virus, both as a prophylactic, and as to the pustules it gives rise to; but virus passed from man to the cow, and then from the animal to man, derives no advantage from such passage.

Epidemic variola attacks preferentially the strong and healthy portion of a population, rarely following an acute disease, or complicating a chronic diathesis. Pregnancy and alcoholism are two conditions in which variola is found oftener arising than in disease properly so called; but the prognosis is far more favourable in variola occurring in a state of health, or in the course of a normal pregnancy, than among persons seized under different conditions. The disease is especially fatal among those who have committed abuses of alcoholic drinks.

The epidemic of the Canton of Geneva, and of other districts situated in the basin of the lake, has furnished in every hundred cases of the disease sixty or seventy cases of direct and slight variola, and from thirty to forty cases of confluent or dangerous variola. Intense prodromes were not always followed by the dangerous form of the disease, but slight prodromes were always succeeded by a slight and benign form. Suppurative fever was manifested in the majority of the unvaccinated and in five per cent. of the vaccinated. Some instances of confluent variolous eruption, strictly limited to the face, were noted during the epidemic, and cases of *variolæ sine variolis*, few in number in Geneva itself, were met with in more abundance in other localities.

The *hemorrhagic form* was manifested at all the points of the basin of the lake at which the variola appeared, but with varying frequency in different localities. The Canton of Geneva exhibited the largest proportion, seven per cent. of the cases presenting the hemorrhagic form. At Aigle and Ivorne, where the number of cases were ten times more numerous than at Geneva, there were scarcely seven hemorrhagic variolas in 1000 cases. In the Genevese epidemic one case in five of hemorrhagic variola were cured, but in these the hemorrhage consisted merely in epistaxis or metrorrhagia supervening during the course of the variola. There were very few cutaneous hemorrhages among the cases cured. The hemorrhagic form was observed to be twice more frequent among the unvaccinated than the vaccinated; but eliminating the slight cases, which belonged exclusively to the vaccinated, and comparing only the serious cases of the two categories, we then find more hemorrhagic cases among the vaccinated. Comparing the deaths, there were twenty-three per cent. of the unvaccinated, and sixty-five per cent. of the vaccinated which presented the hemorrhagic form; so that while it is only one of various causes of death among

the unvaccinated, it is the chief, if not the only cause among the vaccinated. It was observed that hemorrhage complicated a great number of cases of different diseases during the autumn of 1858, the period when the hemorrhagic form of variola was at its maximum of frequency at Geneva. It was chiefly between the ages of twenty and forty that this hemorrhagic form was observed among the vaccinated. Death occurred about the sixth day (the third of the eruption) in one-half of the fatal cases.

The *mean duration* of the variola at Geneva was fourteen days in cases which recovered, and eleven and a half days in those which succumbed. The mean duration of the prodromes was from three to four days, and that of the eruption, until the period of desiccation or suppuration, from three to seven days. In some cases there was observed a successive development of the eruption, so that certain of the papulæ appeared five or six days after the first, and died away without undergoing further development."—*Med. Times and Gaz.*, Dec. 17, from *Archives Gén.*, tom. xiv.

—

11. *Epidemic of Variola in Prussia in* 1858.—Variola, which had acquired a considerable extension in Prussia during 1857, increased very much in 1858, both as regarded the number of localities invaded, and the number of individuals attacked. In some places it assumed an intensity which called to mind the ravages of the cholera. In 1857 there occurred throughout the entire monarchy 8,922 cases, but in 1858 there were 30,843 cases observed in 2,668 localities. Of this number 2,789 individuals died, a mortality therefore of 9 per cent., that of 1857 having been 10 per cent. The provinces in which the disease was most prevalent were those in which were the slightest mortality (7 or 8 per cent.) as compared with Westphalia (15 per cent.), where it was much less common. This has arisen from the slighter cases having been more promptly reported in some provinces than in others. Some districts exhibited a remarkable amount of mortality, as did others as remarkable a mildness. Thus while in the Arnsberg district the mortality rose to 20 per cent., in the Cologne district it was not more than 3 per cent. Of the 30,843 cases, 8,634 were children under 15 years of age, and 22,209 individuals older than 15. Of the children, however, 15 per cent. died, and of the adults 7 per cent. This disposition of the disease to prove fatal in children exhibited itself very markedly in certain localities. Thus in Berlin 23 per cent. of the children and but 5 per cent. of the adults died; in the government of Frankfort, 9 per cent. as compared to 2 per cent.; in the government of Magdeburg, 19 per cent. as compared to 4 per cent.; and in that of Arnsberg, 31 per cent. children to 11 per cent. adults. In very few localities, indeed, were the proportions alike in both cases. Berlin has not been free from variola during the last twenty-six years, the number of cases having varied from so few as 6 in 1855, to 690 in 1850; but in 1858, the epidemic which had commenced in 1857 (with 596 cases), gave rise to 4,535 cases with 406 deaths.

Of the 30,843 patients, 25,995 had been vaccinated, and 4,758 were unvaccinated. There were, therefore, 15 per cent. unvaccinated. The proportion was 10 per cent. in the adult (2,331 in 22,209 cases), and 28 per cent. in the children (2,427 in 8,634 cases). Of the 25,995 vaccinated, 1,730 died, *i. e.* 7 per cent.; and of the 4,758 unvaccinated, 1,055 died, *i. e.* 22 per cent. A mortality of two-thirds less in those submitted to vaccination, strongly exhibits the power of this in mitigating the severity of the disease. This influence is somewhat less manifested in the children than in the adults; for while of the 6,187 who had been vaccinated, 503 (8 per cent.) died; of the 19,808 of the vaccinated adults, 1,227 (6 per cent.) died. The mortality in the non-vaccinated also varied considerably. Of 2,427 children, 782 (32 per cent.) died; and of 2,331 adults, 273 (12 per cent.) died. Summing up the figures, we find, then, that in vaccinated children 8 per cent., and in unvaccinated 32 per cent. (*i. e.* four times as many), die; in vaccinated adults 6 per cent., and in unvaccinated 12 per cent (twice as many), die. These facts surely speak highly for the protective power of vaccination, and for its beneficial influence on the course of the disease. The whole of the recruits for the army, about 40,000 per annum, are revaccinated; and revaccination being always resorted to when epidemics exist, the prevalence of smallpox within its ranks has been almost entirely prevented.—*Med. Times and Gaz.*, Feb. 11, 1860, from *Medicin. Zeitung*, 1859.

12. *Variolous Orchitis and Ovaritis.*—M. BERAUD draws attention, in an essay in the *Archives Générales* (tom. xiii.), to the frequency of the occurrence of orchitis during the course of variola, a coexistence quite ignored by writers on the disease, and only casually glanced at by MM. Velpeau and Gosselin. Of its reality the author has been able to convince himself by clinical observation, and by an examination of the large number of bodies of persons dying of variola brought for dissection during the three years he was prosector.

Pathological Anatomy of Variolous Orchitis.—The affection has been observed under two forms; *peripheric* orchitis, by very much the most frequent form, and a *parenchymatous* orchitis. The *peripheric* form, again, is divisible into two distinct varieties; in one of which inflammation of the serous membrane is the essential feature, and in the other an inflammation of the tail of the epididymis, accompanied by a plastic deposit.

The inflammation of the *tunica vaginalis* is in the great majority of cases partial, the parietal layer, too, being almost exclusively affected. At the inflamed spots, which are usually situated below, the serous membrane is injected and rugous, and sometimes there is an infiltration resembling chemosis. There is usually a small quantity of limpid or yellowish fluid, which is also generally accompanied by false membranes of a bright yellow colour, floating in the liquid. They have a striking resemblance in colour to the contents of variolous pustules. Besides the vaginalitis, in most of the cases there is a *plastic deposit* near the tail of the epididymis. It is of a yellowish colour, much resembling the plastic matter met with in the tunica vaginalis. Sometimes so small as to be hardly visible, in most cases the deposit varies from a small almond to a filbert in size. Its consistency is considerable, so that it is not crushed when pressed. Its structure is laminated, like the layers deposited within an aneurismal sac. The testicle, as well as the rest of the genito-urinary apparatus, remained in this form unaffected.

The *parenchymatous form* of variolous orchitis is of much rarer occurrence, the author having only met with one instance, which he gives in considerable detail.

Causes and Mode of Production of Variolous Orchitis.—With respect to the cause, nothing in fact can be stated beyond that it is due to the variolous condition prevailing. Its occurrence will, however, be found to be one of considerable frequency, when attention is more directed to the subject; and the author did not find it wanting in more than three or four out of twenty cases of fatal variola that came under his notice. Although occasionally met with in lads, it is mostly found at the adult age, when the organ is in full vigour. Its occurrence does not seem to be favoured by a prior morbid condition, for in almost all the author's cases the most complete integrity of the organ was found to exist. Tempted at first to believe that the inflammation in the peripheric form was propagated from the skin to the serous membrane, the author soon saw reason to abandon this view, and to conclude that it was primarily and spontaneously developed at the serous surface, as also that it was quite independent of any so-called metastatic action.

Symptoms of Variolous Orchitis.—With few exceptions the orchitis is bilateral, the left side being that generally most seriously affected. The affection of the testicle, too, appears to come on at the same time with the eruption of the skin, and to undergo development simultaneously with it. In the peripheric form one of the earliest signs is tumefaction, but this is usually but slight, confined to the lower portion of the testis, and accompanied with but little fluctuation. There is no redness of the skin beyond that induced by the presence of pustules: but the pain and tenderness are very considerable. A very remarkable sensation of *frottement* is produced in bringing the two opposite surfaces of the tunica vaginalis together by gently pressing up the testis towards the ring. Where there is the fibrinous deposit near the tail of the epididymis, this gives rise to a small painful tumour in that region. When the active inflammation of the serous membrane is coexistent with this deposit, the tumefaction and pain are much more considerable than when either of these states exists alone. The parenchymatous form is characterized by different symptoms, ac-

cordingly as the testis is alone affected, or is so in common with the tunica vaginalis: but, as already stated, this form is very rarely met with.

Termination and Treatment of Variolous Orchitis.—The only termination of the peripheric form that has been observed is by resolution, although abscess might have been predicated from the violence the inflammation sometimes assumes. It is probable that some of the so-called *critical abscesses*, observed at the termination of variola, are really examples of the termination of an orchitis which originated at the commencement of the eruptive stage of the variola. The cellular tissue surrounding the tail of the epididymis, is in such case the probable seat of the abscess. The mere inflammation of the tunica vaginalis easily undergoes complete resolution. In general towards the twentieth day the patient is cured both of the principal disease of this concomitant affection: and there is no example of the orchitis passing into a chronic condition—the plastic deposit around the epididymis requiring, however, a variable period for its entire removal. As to treatment, that this need not be active is evident from the fact of the affection usually passing unperceived and becoming spontaneously cured. Still, it is probable that the so-called critical suppurations met with in the scrotum, and met with at the end of variola, might be prevented by attention being paid to the earlier stage of inflammatory action. The author suggests the application of *emplastrum Vigo* to the scrotum, as a means both of limiting the development of pustules, and of beneficially influencing any serous inflammation that may exist. A suspensory bandage should be employed from the commencement.

Variolous Ovaritis.—The author's attention was directed to this by analogy: and observation has since confirmed his anticipations. Although he has repeatedly observed the symptoms of the affection clinically, and has no reason to believe it is rarer than the orchitis, he is at present in a condition to publish only three cases verified by autopsies. More cases will doubtless soon follow now the subject has been brought forward. He believes that there is a peripheric and a parenchymatous form of the affection; and that the prognosis will not be found so favourable as in the case of orchitis. May not some of the instances of peritonitis supervening upon variola have originated in this condition? At all events, in future, the fixed pain and tenderness in the iliac regions observed during variola calls for treatment by leeching, etc.

—

13. *Dilatation of the Stomach.*—M. Rilliet, of Geneva, having met with two cases of this affection, has taken the occasion to prepare a small monograph upon the subject. With the exception of Duplay's collection of cases, published in the *Archives* in 1833, there has been nothing special written about it, although it is noticed in most treatises of pathology. It has, indeed, been too much regarded as merely appertaining to the domain of pathological anatomy, or as constituting only an unimportant epiphenomenon of a necessarily fatal disease. It may, however, be the result of a purely dynamic influence, as paralysis, or may be connected with a curable lesion, such as simple ulcer of the stomach. When it is added that dilatation of the stomach has given rise to serious errors of diagnosis, enough will have been said to show that its consideration is not devoid of practical interest. Allusion here is not intended to be made to the state of temporary dilatation met with in tympanites or bulimia.

We have no exact mensurations of the stomach in the varying conditions of emptiness and repletion; but we may consider dilatation to exist when the large curvature descends to the level of the umbilicus, and that the dilatation is very great when it reaches the pubis. Between these two extremes there may be various degrees; but what especially characterizes a morbid dilatation is the ease with which it is produced, and the difficulty or impossibility there is for subsequent contraction to take place. Great dilatation of the stomach may, indeed, be produced by enormous eating; but then, in proportion as the organ gets rid of its superfluity, it resumes its normal size and position. But in the morbid condition, even when it has become quite or partly empty, it remains just as dilated, the muscular coat having in great part lost its contractile energy. In proportion to the increase of the size of the stomach the other organs undergo displacement, and analogous phenomena are observed to those which ensue upon

the development of a tumour in the cavity of the abdomen. In a practical point of view, it is of importance to know that the stomach may become so dilated as to fill the entire abdomen. In proportion as the dilatation increases, the cardiac and pyloric orifices approach each other, the large curvature increasing and the small one diminishing more and more.

Causes.—It is an opinion generally stated in pathological treatises, that in cases of morbid dilatation there will be almost always found considerable narrowing of the pyloric orifice; but this statement is made far too absolutely, inasmuch as dilatation may exist without any such narrowing, although, doubtless, when the tunics of the stomach have undergone changes in the vicinity of this sphincter, this suffices to favour the production of morbid dilatation. It is certain that dilatation is most frequently met with as coinciding with cancer of the pylorus; but even in this case it may be as dependent upon atrophy or destruction of the muscular tissue as upon a stricture, properly so called. Dilatation of the stomach has been especially met with between the thirtieth and sixtieth years of age; and the histories of various cases show the influence which depression of the vital forces exercise in its production, and that quite independently of the presence of cancer. Injurious dietetic habits may favour its production; and it is said to be not infrequently met with in drunkards.

Symptoms.—Vomiting and the condition of the abdomen are the chief characteristics. The abundance of the vomitings is out of proportion to the amount of matters ingested; and they may contain undigested substances taken days or weeks previously. They have a special kind of rancid or putrefactive smell; and do not usually occur daily, but, as a kind of crisis, at from two to ten or fifteen days' interval. These crises increase in frequency as the disease makes progress. In some rare cases there is no vomiting at all, and in some of these the duodenum seems to replace the œsophagus, and the stomach is emptied per anum. The absence of vomiting in these exceptional cases is probably due to the intensity and rapidity of the paralysis of the stomach, to the permeability of the pylorus, and to the prevalence of anorexia having greatly diminished the amount of ingesta. Painful and excessively acid eructations and regurgitations are also observed. The condition of the *abdomen* should be examined both prior and subsequent to the vomiting; when the results obtained by percussion and *ballottement*, while the stomach is in a state of repletion, will more or less disappear after it has emptied itself, and may then be reproduced by the ingestion of liquid or solid substances. When there is no vomiting the diagnosis is difficult, and error may easily arise. Excessive frequency of vomiting may, on the other hand, be also a cause of error, by reason of the absence of obvious abdominal tumour.

Duration.—Dilatation of the stomach is generally very slowly produced, and its course is that of chronic affections, terminating after several months in cachexia, the result of inanition, fever not manifesting itself. The disease may be cut shorter when there is perforation consequent on ulceration, or when the strength has become exhausted by fruitless vomiting.

Prognosis.—Although dilatation of the stomach must be regarded as incurable when dependent on cancer or upon an almost complete obliteration of the pylorus, it may disappear when it has arisen from a purely dynamic cause, or when it has arisen from not very profound lesions—always supposing that it has not reached its extreme degree.

Treatment.—In certain cases we cannot only relieve this condition, but prevent its recurrence. When it does not arise from a mechanical obstacle, and even then to a certain extent, the dilatation is produced under the influence of dyspepsia—giving to the term dyspepsia its widest signification, as dependent upon the disturbance of the chemical or the mechanical action of the stomach, or the two actions united. This being the case, the treatment proper for dyspepsia must be put into force; and the following propositions admit of special application to the case of patients menaced with dilatation of the stomach. 1. Alimentary substances should be taken in small volume, avoiding all that are indigestible and flatulent. 2. Slow and thorough mastication and insalivation. 3. Only small quantities of fluid to be drank, and that of a tonic character, as old Burgundy, Madeira, or Sherry. 4. A sufficient period to be left between each repast, and all physical and intellectual labour to be avoided for some time after. 5.

Stimulants suited to excite the secretions and movements of the stomach (as mint tea, aniseed, alkalis, pepsin) should be had recourse to, but not abused. A bitter infusion to be habitually taken, such as calumba or quassia, to which minute doses of tinct. of nux vomica may be added. If the disease is once formed, the dietetic precepts must be rigorously enforced, and especially as regards the small amount of aliment taken at a time. Any articles of food which are returned by vomiting unchanged must be suppressed, and others substituted. The paralysis of the stomach may be combated by means adapted to stimulate muscular contractility, as strychnine or electricity, and by others which oppose mechanical obstacles to the dilatation, such as flannel bandages, compressive belts, and astringent plasters.

M. Rilliet details two cases which have come under his own notice. The *first* occurred in the person of a gentleman aged 72, who, while in good health, was seized with symptoms of dyspepsia. There were acid and gaseous regurgitations and constipation, but no vomitings. The abdomen increased in size, and after seven weeks' duration of the affection a tumour was recognized, which nearly filled the abdomen, and was supposed to arise from the omentum. At the autopsy enormous dilatation was found, the food which had been taken for weeks being found accumulated in the stomach. There was no scirrhus, but a simple ulcer existed on the level of the pylorus. The *second* patient had from the age of twenty been a great and rapid eater, and the subject of obstinate dyspepsia. The disease to which he succumbed commenced two years after severe hepatic congestion, and lasted about ten and a half months. At first it seemed like a gastritis; but the symptoms of dilatation were soon sufficiently marked to enable the diagnosis to be made during life. At the autopsy there was found, besides the dilatation, a stricture of the pylorus, produced by vegetations of the mucous membrane and a thickening of the submucous tissue, the result probably of the cicatrization of a simple ulcer, the microscope having shown the absence of the characteristic elements of cancer.—*Med. Times and Gaz.*, Jan. 21, 1860, from *Gazette Hebdomadaire*, 1859, Nos. 17, 18, 20.

—

14. *Pathology and Therapeutics of Typhus Fever.*—The No. of the *Glasgow Medical Journal* for Jan. 1860, contains an interesting paper on this subject by Dr. Jos. Bell, one of the Physicians to the Glasgow Infirmary. The following are his concluding propositions:—

1. That in numerous cases of typhus, about the fifth, sixth, or seventh day of the attack, the impulse and systolic sound of the heart become feeble and ultimately imperceptible.

2. That these symptoms indicate a morbid alteration in the structure of the muscular tissue of the heart, especially in the walls of the left ventricle.

3. That this alteration resembles the usual changes which result from congestion and inflammation of muscular structure.

4. That the nature of this pathological change requires further examination and research, because the evidences on which the doctrine of its non-inflammatory origin rest, are not conclusive; the circumstances on which Louis and Stokes have placed reliance being not uniformly present.

5. That the beneficial influence of stimulants does not prove the non-inflammatory nature of the morbid change, because, in asthenic inflammation, a stimulating treatment is always necessary.

6. That whether or not the pathological alteration be owing to inflammation, the softening must be regarded as one of the special secondary effects of typhus.

7. That the proper treatment is to maintain the action of the heart by stimulants.

8. That in cases of cerebral and pulmonary disturbance arising in connection with the symptoms of cardiac softening, a stimulating plan of treatment is indicated.

9. That the presence or absence of the physical symptoms diagnostic of softened heart, may be relied on as affording trustworthy evidence, by which the sthenic or asthenic nature of these cerebral and pulmonary affections can be determined.

From these propositions it follows as a *corollary*, that it is the duty of the

physician to devote the strictest attention to the action of the heart, especially as regards its impulse and sounds, throughout the course of every case of typhus.

15. *Etiology and Treatment of Peritonitis.*—Dr. HABERSHON read a paper on this subject before the Royal Medical and Chirurgical Society, December 13, 1859. The author first alluded to the value of a knowledge of the causes of disease as a guide to right treatment, and to the importance of considering local disease as connected with a constitutional or general origin. In reference to peritonitis, he remarked that although written and spoken of as an idiopathic disease, we did not find any proof that the malady really existed in that character. An analysis of the records of 3752 inspections after death at Guy's Hospital, and extending over a period of 25 years, was brought forward as confirming this statement, and as an indication of the general plans of treatment. 501 were instances of peritonitis, and they were divided—First, into those in which the disease is set up by mischief extending to the peritoneum from without, as from adjoining viscera, injury, or perforation; secondly, those which might be called blood-diseases, connected with albuminuria, with pyæmia, or puerperal fever, or erysipelas; and thirdly, those in which general nutritive change in the system is followed by acute or chronic peritonitis, as in struma or cancer, or after continued hyperæmia of the capillaries of the serous membrane, as in disease of the liver or heart, where very slight exciting cause suffices to produce acute mischief. Of the *first* division, there were 266 instances, and 102 of these arose from internal or external hernia, or mechanical obstructions, and in 19 of the internal kind. Reference was made to the mode in which the extreme tension of the intestine leads to intense congestion of the mucous membrane, diphtheritic inflammation, and ulceration in the direction of greatest tension, leading to perforation in many cases. Different modes of treatment that have been used were referred to, and the use of opium alone advocated; the addition of calomel, as tending to increase the change of the mucous membrane just mentioned, without any corresponding benefit, should preclude its use. 35 were injuries or operations directly affecting the serous membrane, and in 14 had followed tapping; many injuries of the abdominal viscera, proving fatal in a very short time; this number was lower than might be expected. The value of rest and of opium in all these cases as recommended by Dr. Stokes and Dr. Graves in the treatment of perforation, was dwelt upon, as well as the injury that would result from mercury in tending to prevent localization of the mischief and increased depression. 56 were perforation of the intestine; 10 from hernia, 9 from the appendix cæci, 2 from the cæcum, 4 from cancerous disease of the colon, 9 from disease of the stomach, 15 from typhoid disease of the ileum, 4 from struma, 2 from ovarian adhesions, and 1 from cancerous disease of the vagina. In 5 other cases of fever, peritonitis had resulted, in two of which the perforation was not complete; 1 was of doubtful character, for the ulceration of the ileum was slight, and phthisis was also present. In 19 cases fecal abscess had taken place. In 42 cases the peritonitis was caused by extension of disease from the bladder, uterus, or pelvic viscera; thus, 10 from lithotomy, 6 from ovarian disease, and 14 from calculus in the bladder, cystitis, or stricture. In 11 cases, disease of the liver or gall-bladder had led to direct extension of disease to the serous membrane, and in 3 other cases it followed acute inflammatory disease of the colon, and from disease of the cæcum, not previously mentioned in three instances. Thus 261 cases from the 501 were produced by disease not commencing in the serous membrane, but propagated to it from adjoining parts; and the author stated that in each of these instances, as far as medicinal treatment could be of service, he believed that the plan suggested by Drs. Stokes and Graves in instances of perforation of the stomach was of the greatest value, in promoting rest to the intestines, the localization of the mischief, and the acceleration of reparative changes; in many instances the local depletion and the external application of anodyne remedies might be combined with advantage; but that mercury, in the form of gray powder or calomel with opium, was injurious rather than otherwise, as tending to prevent adhesions, exciting action from the bowels, or rendering their contents more fluid, and increasing the depressing effects of the disease on the nervous system. The *second* class of cases consisted of those in which peritonitis was

set up by a changed condition of the blood, as in albuminuria, pyæmia, etc. Sixty-three instances were connected with Bright's disease, and in nearly all of an acute kind. It was stated that the peritoneum was rarely the only serous membrane affected. The treatment of the general disease was regarded as best calculated to remove the affection, assisted sometimes by counter-irritants; but that the ready salivation produced by mercurials did not afford corresponding benefits. Ten were puerperal in their origin; in 13 pyæmia following operations, local suppuration; and 5 others were with erysipelas. Instances were alluded to in which serous membranes became simultaneously affected, perhaps pyæmic, or rheumatic, or from renal disease; and 3 of these were mentioned, one where peritonitis was connected with pericarditis and pleurisy, a second with pneumonia and dysentery, and a third with pericarditis, pleuro-pneumonia, and obscure renal mischief. As to the treatment of these cases, it was regarded that the local affection must be almost lost sight of in the general treatment, and that local depletion and mercurial preparations would not promote the cure in such instances. The *third* class of peritonitis were those connected with general nutritive changes, as cancer, struma, etc., or where, with continued hyperæmia of the peritoneal capillaries in cirrhosis, or heart disease, a very slight exciting cause suffices to produce acute disease. 70 cases rose with struma, 22 acute and 48 chronic and acute. The varieties of the strumous form of disease were mentioned, leading sometimes to serous effusions, to general adhesions, to perforation, or fecal abscess. The ages were stated not to be limited to early life, many occurring between 30 and 40 years of age. It was urged that in all these cases the same general rules of treatment should be observed as in ordinary strumous disease, sometimes assisted by counter-irritants, very cautious local depletion, anodyne applications and opium; but the avoidance of purgatives and of mercurial preparations was recommended. 40 instances of peritonitis with cancer, besides those already mentioned, were next referred to, 9 in males, and 31 in females. In men, glandular organs were generally affected; and, in women, the ovaries or uterus; but, in 20 instances, the disease consisted of tubercles upon the peritoneum, generally with dropsical effusion; 19 of these were women, and 1 a man; the average age of the former 52, and evidently coming on after the cessation of ovarian functional activity. The inutility of diuretics, and the inadvisability of depressing measures, as mercurials, were spoken of; and it was stated, that paracentesis was often followed by increased effusion of lymph, and the best treatment consisted in sustaining the ebbing powers of life by every means in our power. The *last* cases were those of peritonitis associated with hepatic or heart disease. In 32 of this hepatic complication, 14 were chronic, 12 acute, and 6 acute and chronic. 5 had been previously referred to as rendered acute by tapping. In some instances pneumonia was present, and slight exposures to cold and wet evidently sufficed to induce acute changes. The degenerative arterial changes often found with cirrhosis were mentioned, and that this chronic state should be borne in mind in the treatment of the acute disease. It was stated that, in early cirrhosis, the usual treatment of peritonitis by calomel and opium was more serviceable than any other form of peritoneal disease, on account of the stimulating effect of mercurials on the glandular organs of the abdomen; but that even here it was not necessary to produce salivation to ensure the beneficial effects. 9 cases were connected with heart disease. The general causes of peritonitis were:—

From hernia (19 being internal)	102
" injuries; operations, as tapping, etc.	35
" perforations of stomach, ileum, cæcum, appendix, colon, etc. (other 13 included under hernia, etc.)	43
And leading to fecal abscess (2 otherwise mentioned)	17
" ulceration, with *fever*, without perforation	5
" disease of the bladder or pelvic viscera; operations, as lithotomy, etc.	42
" abscess of the liver, gall-stone, etc.	11
" acute disease of the colon	3
" other disease of the cæcum	3
	261

From Bright's disease	63
" pyæmia, puerperal fever, etc.	31
" strumous disease	70
" cancer (12 before mentioned)	40
" hepatic disease (and 5 acute, from tapping)	27
" heart disease	9
	240

The author concluded with the following propositions: 1st. That peritonitis is never idiopathic in its origin, and that we do not find any such instance as acute disease of the peritoneum coming on from mere exposure to cold; in such case, the cold tends to render acute an already existing morbid state. 2d. That the consideration of the origin of the disease, either in a local or general source, is the best guide to treatment; whether—first, from extension of disease from adjoining viscera, as the ovaries, bladder, intestines, perforations, or injuries; secondly, from blood changes, as occur in albuminuria, pyæmia, or erysipelas; and thirdly, from almost imperceptible changes, or deficiencies, in general health, as in struma, or cancer, or climacteric changes, or as a consequence of the hyperæmia of cirrhosis, or heart disease. 3d. That, in the first form, perfect rest, the avoidance of food as far as possible, and the mode of treatment recommended by Dr. Stokes, in producing rest to the intestinal canal and peristaltic action, and diminishing the collapse and prostration consequent on the disease —constitute the best mode of treatment; using, as far as need be, other means, as anodyne applications, local depletion; and, in many instances, also seeking to remove the exciting cause, as in cystic disease, etc. 4th. That where peritonitis is a symptom of blood change, as Bright's disease, pyæmia, etc., it may be best relieved by the treatment of the primary disease; but that here opium is sometimes of great value, and more effective without mercurial combination. 5th. That in the treatment of the third class, the consideration of the cause is also our best guide; that strumous and cancerous disease should be regarded in their general relations; and in those connected with hepatic disease, the remembrance of the condition prior to the supervention of the peritonitis should prevent us from using means calculated to increase the primary mischief; and that any benefit due to mercurial action may be attained without mercurial salivation. 6th. That, in general, the benefit ascribed to mercury in the treatment of peritonitis is not established, and may, perhaps, be correctly attributed to the opium with which it is combined.

Dr. COPLAND said that the statement of Dr. Habershon could not be disputed, that in ninety-nine cases out of a hundred peritonitis, whether acute or chronic, was a consecutive, and not an idiopathic disease. In many cases, however, met with in children, it was difficult to determine what was the more immediate disease. It often arose from disorder of the digestive mucous membrane, from consecutive disease of the glands, especially the lacteal glands. In many of these instances the peritonitis was coexistent with tubercular inflammation of other serous membranes, as of the brain and pleura. The author's treatment appeared to be correct as far as it went. In the majority of cases salivation should be avoided, but there were some cases in which it was required. The author had overlooked a variety of medicines which were useful in cases of peritonitis consequent upon blood-contamination, especially the external application of turpentine by stupes or embrocations, which might go hand-in-hand with the opium treatment. In puerperal diseases scarcely a case could be successfully treated without the use of opium and the external application of turpentine. The most valuable portion of the paper were the statistics; as to the causation of the disease there was nothing new developed; and in regard to treatment the paper was very deficient.

Mr. POLLOCK said that most surgeons would agree with Dr. Habershon that, in cases of actual rupture of the intestine, mercury was worse than useless, and opium was the only treatment that could be adopted. In cases, however, where slight bruises of the abdominal wall were followed by peritoneal inflammation, producing constipation, mercury, with the addition of local or general depletion,

was often the surgeon's sheet-anchor. He remembered the case of an old gentleman who was accidentally bruised in the abdomen while in bed, and who found his bowels in a state of discomfort for a few days. About a fortnight after constipation had set in he (Mr. Pollock) saw the patient. There was distinct tenderness, and a solid mass on one side of the umbilicus extending towards the pelvis, and it was concluded that there was a portion of intestine fastened together by the effects of inflammation, and not from any rupture. On the twenty-eighth day the symptoms had very much subsided, and the pain in the abdomen had almost entirely disappeared. During the whole period he had been taking mercury to a small extent, and on the twenty-ninth day the bowels acted for the first time. That, he thought, was a well-marked instance of success resulting from mercurial treatment with very little opium. In another case, occurring in a boy who was kicked by a companion, the mercury did not produce any marked effect till the boy was fully under its influence. He thought the author had not sufficiently distinguished the cases where mercury was injurious and where it was beneficial. He would ask whether Dr. Habershon, in cases of obstruction of the bowel, particularly the large intestine, had found the peritoneal coat of the intestines give way before the mucous coat? It was, he thought, of importance not to delay too long the opening of the large bowel when constipation had taken place from any cause situated in the ascending or descending colon. He had sometimes seen rupture of the peritoneum before the mucous membrane had given way.—*Med. Times and Gaz.*, Dec. 24, 1859.

16. *The Importance of Free Respiration in Certain States of the Brain.*—Mr. Chas. Hunter read an interesting paper on this subject before the Western Medical and Surgical Society (Jan. 20, 1860). The necessity of attention to the respiration was considered chiefly of value: 1. In *coma*, from injury or disease, sanguineous or serous. 2. In narcotism of the brain. 3. In epilepsy. 4. In certain functional cerebral derangements, where a tendency to headache and lethargy exist. The strictly anatomical connection of the lungs with the brain having been alluded to, it was shown how, pathologically, disease of either of these organs might kill by its effects upon the other. 1. Cases of coma from cerebral injury and apoplexy were then cited, illustrating how death generally took place by apnœa; the practical point, therefore, indicated was, that life might not only be prolonged, but saved, by attention to the respiration, even in cases apparently the most hopeless. 2. In narcotism: the greater the insensibility in narcotic coma the more the respiration is affected; the more, therefore, it requires to be watched. Coma and narcotism both kill by the lungs; but several points of difference were shown to exist between the apnœa of coma and that of narcotism. In the apnœa of coma death is not generally (or at all events primarily) due to cessation of respiratory action, *i. e.* muscular paralysis; but to lung paralysis, evinced by extreme and rapid congestion of the lungs, accompanied by rapid effusion into the pulmonary air-cells and bronchial tubes. The death is apnœa by effusion, unless it can be warded off. The treatment for the apnœa of coma is venesection to relieve the congestion of the lungs, and prevent its further formation; but more especially important is the prone position (the prenopnœa of Dr. Marshall Hall), by which an enormous amount of bronchial effusion may be got rid of. Without the prone position the bronchial effusion may so accumulate, that the patient with coma may, in reality, die of narcotism from non-eliminated carbonic acid gas. Artificial respiration may not be necessary. A case of apoplexy of the medulla oblongata, and one of compression from injury, were related, in which no muscular paralysis existed. In the apnœa of narcotism, there is neither the rapid effusion, nor the great congestion of coma; but if death ensues, it is chiefly from musculo-respiratory paralysis. The pulmonary congestion is less than in cases of coma, for the narcotic influence diminishes the strength and frequency of the cardiac pulsation, which are unrestrained in coma. In the treatment of narcotic apnœa venesection is not necessary; nor is prenopnœa, to remove effusion; but it is especially necessary for a different reason, viz., lingual paralysis. Artificial respiration is here invaluable; if employed, however, without attention to the tongue, it may be useless. 3. In epilepsy: the normal state of the respiration is a point in the etiology of this

disease requiring, in Mr. Hunter's opinion, careful consideration. Many epileptics have a shallow, contracted, and very feebly-acting chest, which predisposes to, and must keep up, the epileptic tendency. Several patients were alluded to whose respirations were not only very limited in amount, but in number also, being less than one to four cardiac pulsations. This feeble lung-action acts injuriously to the epileptic in a twofold way; it tends to retain carbonic acid in the blood (to which gas many of the symptoms peculiar to the epileptic besides the seizure seems attributable), and also prevents the lungs acting freely as diverticula to the cerebral circulation. 4. Among the functional cerebral derangements were mentioned headache and lethargy, which free respiration in the open air would often remove; also cases in which the respiration would sometimes, without any warning, become extremely difficult (as if from sudden deprivation of nervous influence). In such cases, fresh air, the inhalation of ether and ammonia, deep inspirations, forced (if the patient can effect them), assisted if not, appear to the author indicative and productive of great benefit in these conditions.—*Med. Times and Gaz.*, Feb. 18, 1860.

17. *On Stertor, and on the Varying Conditions upon which it is Dependent; with the Treatment necessary for its Relief.*—Mr. R. L. BOWLES read before the Royal Medical and Chirurgical Society (January 24, 1860) some very interesting observations on this subject. He commenced by stating that in the majority of instances, he had found, from experiment, that stertor arose from one of three conditions: 1st, from paralysis of the velum palati; 2d, from the paralyzed tongue lolling back in the throat; 3d, from the presence of mucus in the pharynx and air-passages. His attention was first attracted to this subject when assisting Dr. Marshall Hall in elucidating the subject of artificial respiration on the dead body. It was found that the position of the body invariably influenced the relations of the tongue, namely, that in the prone position it fell forwards and away from the pharynx; whereas, when the body was supine, it fell back towards the pharynx, and would form a serious obstacle to the passage of air into or out of the trachea. It was also observed that mucus or fluid ejected from the stomach tended to drain away in the prone position, and to remain in the back of the pharynx in the supine; and this would greatly increase the danger of apnœa in the latter. The author stated that, in November, 1857, he was called to a case of apoplexy, in which coma and stertorous breathing had persisted for some hours. The patient was wholly unconscious and uninfluenced by external impressions, and the pupils were contracted and immovable. Whilst watching the case, some fluid was ejected from the stomach, which lodged in the pharynx, and would have caused death by suffocation had not the patient been quickly turned on her side, and the fluid allowed to drain away. In this position the stertor entirely ceased, but on resuming the supine position it returned as loudly as before. The experiment of change of posture was tried several times, and always with the same result; and, what was equally remarkable, the general symptoms were greatly modified after the lateral position had been maintained for a few minutes; the pulse became calmer, the skin cooler and less bedewed with moisture, the eye sensible to the touch; and the general sensation returned to such an extent that the patient evinced signs of discomfort at the removal of a mustard poultice. In a case of epilepsy in which stertorous breathing had supervened, the moment the lateral position was assumed the stertor ceased, and the patient very soon became conscious, and recovered. Other cases were related, all of which tended, with the foregoing, to demonstrate: 1st, that the paralyzed tongue *may*, under certain circumstances, cause even death by suffocation; 2d, that stertor arises from the tongue falling back in the supine position of the body, so offering a serious impediment to the respiration; 3d, that mucus (another respiratory impediment) drains away when the patient is placed on the side; and 4th, that great improvement of the general symptoms follows the establishment of easy breathing in the lateral position. The anatomy of the parts was then referred to; and it was shown that the pharynx, having only a fixed boundary posteriorly, may have its capacity materially altered by the ever-varying positions of its sides, of the soft palate, the tongue, and the larynx. With the closed mouth, the tongue cannot, in the majority of cases, reach the

back of the pharynx, as it is fixed to the inside of the symphysis of the jaw; but when the jaw drops, the symphysis describes the arc of a circle, and approaches very nearly to the spine, thus allowing the tongue to come in contact with the posterior wall of the pharynx. Diagrams of some dissections were shown, to illustrate the position of the tongue and epiglottis in the various positions of the jaw and of the body. If the chin be bent upon the sternum by raising the head with pillows, the tongue will lie in dangerous proximity to the pharynx, even if the mouth be closed. Stertor was divided by the author into the three following varieties: 1st. Palatine stertor. In this, if the mouth be closed, the soft palate is pushed upwards and backwards by the base of the tongue, and thus narrows the opening between the palate and the posterior wall of the pharynx. If the mouth be open, the velum palati drops upon the tongue, and vibrates as the air rushes between it and the tongue. 2d. Pharyngeal stertor, which is the most frequent in apoplexy, and by far the most dangerous. This variety depends upon the base of the tongue dropping back into the pharynx, and acting as a serious impediment to the passage of air; it occurs when the mouth is wide open, and is a harsher and sharper noise than either of the other varieties. 3d. Mucous stertor, which depends upon the presence of mucus in the bronchial tubes; it may exist alone, or in combination with either of the preceding varieties. A case was related, to show that palatine stertor, with closure of the mouth, may accompany deep coma; but it was considered that it was the rule for persons in deep coma to breathe through the mouth, and for this reason: the muscles of the jaw being paralyzed, the jaw drops and opens the mouth; whereas, the dilators of the nose, being also paralyzed, the alæ nasi are forcibly drawn by the in-going air towards the column of the nose, and thus close the orifice of the nares altogether. With reference to the importance of stertor, the author remarked that the impediment to the entrance of air into the lungs, as it tends to retard the flow of blood through the veins, might very possibly be the first step towards death in cases of apoplexy with degeneration of bloodvessels, or fracture with laceration of the sinuses or vessels of the brain; for the blood would make its way, where there was least resistance, through the wounded or ruptured vessel. If, however, there were no obstruction in its natural course, it would more probably follow that, than turn aside through an opening, in which perhaps a coagulum had already formed. Besides the ultimate dangers which might result from a persistence of stertor in apoplectic and similar conditions, the more immediate dangers of the supine position were pointed out—*e. g.*, 1st. Fluids or other foreign matters making their way into the larynx from the mouth or stomach. 2d. The falling back of the tongue, causing sudden and complete apnœa, which may occur in all cases of paralysis, whether from syncope, apoplexy, concussion of the brain, chloroform poisoning, suffocation from carbonic acid or drowning; for if a disaster arise from any of the above conditions, the patient is almost invariably laid flat on the back. The paper was concluded by the relation of a case, by Mr. Lewis, of Chester, of profound coma supervening upon several severe attacks of epilepsy, following each other in quick succession. When the patient was seen, the pupils were contracted and insensible; the pulse small, weak, and irregular; the surface pale, with cold, clammy perspiration; breathing irregular, slow, and extremely laborious. The stertor was very marked; very little air seemed to enter the lungs; the cheeks were puffed out during expiration. The patient was placed well over on his side. There was an immediate flow of saliva from the mouth, followed by a considerable quantity of saniomucous fluid. The breathing instantly became more free, and in less than a minute all stertor had ceased. The other symptoms gradually subsided, and in an hour's time, the bowels having been acted on by croton-oil, there was a partial return to consciousness, and the next day the patient was walking about the wards of the asylum.

18. *Sugar in the Urine.*—M. Henry Musset states that "sugar in the urine does not necessarily imply the existence of diabetes. One may pass sugar with the urine, and yet enjoy perfect health. Dr. Blot has shown that sugar exists normally in the urine of all women during parturition, of nurses, and of a certain number of women during pregnancy. Dr. Leudet has shown in paraplegic

patients that there is a constant relation between the appearance of the nervous cerebral accidents and the glycosuria. Dr. Itzigsohn relates a remarkable case of traumatic diabetes, occurring in a blacksmith who had received a blow on the top of the head. Dr. Todd has also given a case of diabetes which was observed in a woman after she had received a blow on the head. Prout observed sugar in the urine of dyspeptics and aged persons, and Dr. Goolden in children during dentition. Thus, then, there are numerous circumstances, physiological and pathological, which, directly or indirectly, concur in the formation of sugar in the economy. Can we now, with M. Mialhe, explain the presence of the sugar in the urine, by the greater or less alcalinity of the blood, which in the latter case cannot transform the glucose—the glucose then becoming a foreign matter in the body, and so discharged by the kidneys? Or, with M. Bouchardat, shall we explain the glycosuria by supposing the presence of some peculiar principle, which has an action on starch like that of diastasis? Then, again, we have the explanation, resulting from discovery of the glycogenic function of the liver by M. Bernard, viz., that the function of this organ is impeded, and the sugar thrown into the general circulation. When, however, we consider, that in everybody there are products which are returned by the lymphatics into the general circulation; that the transformation of starch goes on normally in the intestines; and that it is accomplished even in the mouth under the influence of the salivary diastasis; and if, moreover, we recollect—that glycosuria accompanies dentition, dyspepsia, certain cerebral disturbances, that it may be caused by irritation of the brain at the origin of the eighth pair of nerves; that it exists in pregnant and parturient women and nurses—are we not naturally brought to the conclusion, that diabetes is a neurosis troubling the harmony of the assimilating functions?"—*Med. Times and Gaz.*, Dec. 10, from *L' Union Méd.*

19. *Action of Iodide of Potassium on Phthisis.*—Dr. R. P. COTTON gives (*Med. Times and Gaz.*, Dec. 24, 1859) the results of his experiments with this article on twenty-five patients taken indiscriminately from those who came to the Hospital for Consumption, Brompton.

"The iodide was administered in doses varying from five to seven grains, twice, and in some instances, three times a day, simply dissolved in pimenta-water. The cases consisted of thirteen males and twelve females, their respective ages varying from 16 to 44, the majority being about midway between the two. In eleven, the disease was in its first stage; in two, softening had commenced; and in twelve, there was unmistakable evidence of more or less pulmonary excavation. The medicine was continued, according to its effects, from a period varying from three to ten weeks. Whenever it seemed, after having been taken for four weeks, to be producing little or no good, it was discontinued, and the subsequent progress of such patient under other treatment carefully observed.

"In two instances, headache was complained of; in six, there was more or less dyspepsia, flatulence, or loss of appetite; and in three cases, hæmoptysis occurred. Whether such symptoms were the *post* or the *propter hoc* it was rather difficult to determine; there seemed to be no reason, however, for suspecting the latter in the cases of hæmoptysis; but, from subsequent observation, the headache and dyspepsia were fairly attributable to the iodide.

"In order to obtain comparative results, in eight cases the iodide was combined with cod-liver oil, and in seventeen administered alone.

"There was a visible improvement in eleven of the patients; six of these being in the first stage of the disease, and the rest more advanced; in six instances there was no change either one way or the other; and in eight the disease advanced more or less rapidly.

"In making an analysis of the eleven improved cases, it was found that in six of the number the iodide had been taken in conjunction with cod-liver oil, and that in five it was taken alone. The most marked improvement was certainly where the two had been associated. In only three cases, where the iodide had been taken by itself, had the patient's weight increased, whilst in ten it had diminished, and in four remained unchanged. Out of the entire twenty-five cases, therefore, only in five could it be fairly argued that the iodide had been of service; and when it is remembered that patients coming into the hospital are

immediately placed under greatly improved circumstances, both as to general hygiene and diet, the good effect of the medicine, even upon these five patients is very far from being demonstrated.

"Four patients, who either had received no benefit from the iodide, or with whom it had disagreed, improved afterwards very much, and gained considerably in weight, under the administration of steel and cod-liver oil.

"In four cases, during the use of the iodide of potassium, there was a marked amelioration in the pulmonary symptoms; the breathing became less difficult, and the cough and expectoration diminished; but here again it is fairly open to question whether such improvement was due to the iodide, or to other and concomitant circumstances.

"From the above observations I think we may arrive at the following conclusions, viz:—

"1. Iodide of potassium given in moderate doses to consumptive patients, occasionally produces dyspeptic symptoms; but more commonly is unattended by any marked result either in one direction or the other.

"2. Under its use the weight is seldom increased, but either remains stationary, or is diminished; the latter effect being of most frequent occurrence."

—

20. *Treatment of Tetanus by Aconite.*—Dr. Leonard W. Sedgwick, of Boroughbridge, relates (*British Medical Journal*, January 28th, 1860) the following instructive case of this:—

"A farmer's labourer, aged 30, strong and muscular, healthy and temperate, in jumping off a cart with a dung-fork in his hand, stuck it into his left thigh about three inches above the knee-joint on the inner and anterior surface. For some days the knee was stiff, and he was unable to work. Ten days afterwards, being much better, he began chopping sticks. About noon he got wet; and, whilst at his dinner, he was seized with a sharp pain between his shoulders; at the same time he thought he could not open his mouth as well as usual. On the eleventh day, he was unable to work from acute pain in the back and jaws.

On the twelfth day from the accident, and the third of the tetanus, I saw him. He was then lying on his back, perspiring intensely, with an anxious, painful expression of countenance. His jaws were nearly closed; the muscles of the back were very rigid; the loins were almost always some distance off the bed; the arms were not much affected; the legs were stiff; the abdominal muscles hard. Pulse 95, not very full. His tongue was moderately clean. The bowels were regular. He had no sleep. The urine was natural. I ordered him beef-tea and six ounces of brandy in the day; and five minims of Fleming's tincture of aconite in water every four hours. I laid open the wound, and removed a considerable piece of woollen cloth, which had been driven in from his trousers by the fork. To save repetition, I may here state that the wound healed steadily.

Fourth day. He was much the same.

Fifth day. The spasms were not so constant, but more violent. No aconitism had appeared. Seven minims of the tincture of aconite were given every four hours.

Sixth day. He was worse. When the spasms were relaxed, which was only for a very few minutes, the pulse was 68; during the spasms, it rapidly rose to 120, and became smaller. Opisthotonos was extreme; the jaws were clenched. Ten minims of the tincture were given every four hours; and he was ordered to have ten ounces of brandy daily.

Seventh day. Tingling in the hands and feet and slight giddiness having come on, the spasms had been much less severe. The pulse was weaker, and he had great sleeplessness and restlessness. The aconite was omitted; and twenty minims of chlorodyne were given in an ounce of water every four hours.

Eighth day. He continued easier, and slept well. The pulse was stronger. The spasms were not so frequent. He complained of much pain from flatulence. Twenty minims of tincture of sumbul were given with the chlorodyne. I may remark, that I have seen more benefit from sumbul in flatulence than from any other drug.

Ninth day. He took more beef-tea, etc., and was improving. The flatulence was diminished.

Tenth day. Immediately after being startled by a loud noise, he had a violent spasm, lasting some time. It recurred at intervals with great violence. He was ordered to have three minims of tincture of aconite and ten of chlorodyne in an ounce of water every four hours.

Eleventh day. He was much the same. The dose of tincture of aconite was increased to four minims.

Nothing of importance occurred until the seventeenth day. He continued the mixture, and the cramp decreased. The bowels having been confined several days, he had a turpentine enema, which greatly relieved him, and was repeated every other day. On the seventeenth day, some tingling came on, and continued until the nineteenth, though the aconite was reduced to a minim and a half every four hours. On that day the aconite was suspended. The next day there was more cramp. The aconite was resumed for a week longer, and he gradually recovered. In less than three months he was at work again. The muscles were some time in regaining their extensibility after the tetanic spasms had ceased.

Remarks.—The subjects for consideration are, the severity of the attack; the action of the aconite; the effect of the chlorodyne; the chances of spontaneous recovery; and the value of the case as a guide to future treatment.

It was unquestionably a most acute attack. A punctured wound, containing an irritating foreign body, prevents a man from working for ten days. He gets wet; and immediately tetanus sets in, and rapidly worsens. Every muscle of the body is racked with cramp; more than half his time he rests on his head and his heels; every step across the floor, every noise in the house agitates him with this torturing spasm; and from this agony he is free for only two or three minutes at a time. To those who saw him, it was truly a most severe case.

If I have related honestly and faithfully what I most certainly saw, there will be little reason for any detailed argument as to the action of the aconite. When the symptoms of aconitism came on, then, and not till then, did the symptoms begin to abate. Twice, when the aconite was suspended, once to try the effect, once because the tingling and giddiness were becoming extreme, did the spasms return, to abate again on the resumption of the drug. This contratetanic action of the aconite is rendered more probable by the large doses which were originally borne, a part of the remedy seeming to be neutralized, as it were, by the disease, and only the superfluity able to produce its poisonous effect. This view will explain why smaller doses produced greater effects towards the end of the case, there being then less disease to combat.

Perhaps some justification is necessary of the administration of the chlorodyne. Perhaps it may be objected, that I marred the decision of the result by its use. I do not think so. I have often seen the good effects of chlorodyne in producing quiet without depression. Here was a man under the influence of aconite—sleepless, intensely and emphatically restless. My object was to cure him, not to conduct an experiment only. I saw reason to believe that chlorodyne would relieve the disagreeable symptoms probably produced by the aconite, and it did so. But there was no repression of the spasms as a result of its use; for twice it was given alone, and each time the spasms returned, to be reduced again by the aconite. Useful, then, in relieving a disagreeable accident, it had no power to stand against the tetanus.

If I have succeeded in demonstrating the acute nature of the attack, the extremity of the symptoms, and the contraspasmodic action of the aconite, there can be little need to say anything of the chances of spontaneous recovery. He might have beaten the disease; but, from all we know of tetanus, we may be pretty sure that it would have gained the day.

What, then, is the value of the case? Does it contain hope for the future, or is its successful termination merely a fortunate accident? I cannot but think that it is full of hope, more especially when taken in connection with previously reported cases. Of course it is not conclusive; it cannot be. But it points very decidedly to a certain path, by following which, there is more hope of arriving at the wished for goal than by the old well trodden tracks. Aconite has never had that thorough testing that opium, for instance, has. So far, it seems to me most useful; further experience will determine its true value. But little persuasion should be required to induce a fair and extended trial of

its powers, not by one or two, but by many; for, in such matters as this, 'in a multitude of counsellors there is safety.' Nor need we restrict our notice to aconite alone; it is only one of a class of medicines which has yet had little attention paid to it—all powerful, even violent, in their action, and many, I am convinced, containing 'a soul of good' within them, which as yet we have not 'observingly distilled out.'"

—

21. *Chlorine Lotions in Variola.*—Several young persons having died asphyxiated at Würzburg, in consequence of the development of the pustules of variola or varioloid in the larynx, Dr. EISENMANN was induced to seek for a means which would limit the eruption to the skin, and prevent its propagation to the mucous membranes.

Most of the acute exanthemata take their origin in a mucous membrane, as scarlatina in that of the throat, and rubeola in that of the respiratory organs and eyes: and as long as it remains localized in the mucous membrane, and is moderate, the affection of the internal organs is not dangerous. But when the course of the subsequent eruption on the skin becomes impeded, or, that when it appears it is in such intensity or abundance, that the economy does not possess sufficient energy to meet the assault, the primary affection of the mucous membrane may then so increase as to give rise to dangerous lesions. The indications which we should have in view are to favour the eruption of the exanthem, and prevent the skin becoming excessively overchanged with it. The asphyxia above alluded to took place when the eruption had undergone a vivid development and had given rise to abundant pustules: and our object in such case should be to moderate the reflex action of the exanthem on the economy. The means of doing this the author believes will be found in applying over the whole surface three or four times a day weak, tepid, chlorined water, in imitation of a practice successfully pursued by M. Schönlein in scarlatina. He has now tried the plan during various epidemics, and has been able to confirm his own experience by that of others. The general conclusions are as follow:—

1. That chlorine lotions employed at the period of eruption present the following advantages. (1.) They favour the development of the eruption, and thus mitigate febrile action. (2.) The pustules are not too abundant, and do not become confluent. (3.) There is no subsidence or repercussion of the pustules observed, nor any variolous affection of the mucous membrane or of an internal organ. (4.) The patients suffer little during the height of the exanthem, preserve their appetite, and sleep well. (5.) The course of the exanthem is very rapid; and there is neither suppuration with its consecutive fever or tumefaction, salivation, etc. (6.) Scabs do not arise, only thin pellicles forming which soon fall, without leaving any mark or cicatrix. (7.) No consecutive affections are observed. 2. When resorted to only after the eruption has taken place, the lotions produce the following effects: (1.) They diminish or disperse the inflammatory condition, and accelerate the course of the exanthem. (2.) They prevent its repercussion and the propagation of the variolous affection to the mucous membranes and internal organs. (3.) In cases in which the mucous membranes have already become affected, the lotions exert a derivative action; and if together with them gargarisms, chlorine inhalations, and chlorined water internally are had recourse to, the intensity of these complications is much diminished, so that recovery takes place in cases in which life seemed to have been in great danger. (4.) Employed in good time, the lotions, even when the eruption has become developed, may yet prevent suppuration. If, however, this has taken place, it may still be moderated; and we find neither irritation of the skin, nor intoxication of the blood from absorption of pus, and consequently, no general reaction. (5.) Thin scabs only are formed, which soon fall off, only leaving temporary red marks. (6.) No consecutive diseases arise.

This means is beyond comparison superior to the variety of ectrotic applications having for objects the prevention of pitting, for these, when they can be borne, at most confer this local advantage without diminishing the severity of the disease. It is true that applications of corrosive sublimate or tincture of iodine exert a somewhat similar action on the variola to chlorine; but no one would risk making repeated and general applications of the former; while the

sudden arrest of the morbid process over a large surface by means of iodine, which also interrupts the functional action of the integument, would often prove anything but a safe procedure.—*Med. Times and Gazette*, Feb. 11, 1860, from *Bull. de Thérap.*, t. lvi.

22. *Sambucus Nigra in Dropsy.*—M. REYSSIE, a Belgian practitioner, states that he has long employed the juice of the root of the sambucus as an excellent purgative in dropsy. The bark of the fresh root must be detached by scraping, and the juice is extracted from the scrapings by pressure. The dose is a teaspoonful for an ordinary purgative; but as it does not cause colic or any other inconvenience, the quantity may, in the case of dropsy, be increased to a tablespoonful, which will often induce from twenty to thirty stools. It is a curious fact, that the process of boiling, as in the preparation of a syrup, converts this purgative into a diuretic, which may also be of great use in dropsy.—*Revue Méd.*, Nov.

23. *Cylindrical Pencils of Tannin in certain affections of the Uterus.*—This form of application, pointed out by Dr. BECQUEREL, seems likely to be of service in the treatment of lesions affecting the cavities of the neck and body of the uterus. In particular, in the fungous conditions of their mucous membranes, with consecutive hemorrhages, the tannin pencils might be advantageously substituted for the intra-uterine injections, which are not always free from danger. Dr. Becquerel's formula is: ℞. Tannin, 4 parts; Gum tragacanth, 1 part; Bread-crumb, q. s. to give the proper consistence.

These pencils are 5 millimetres in diameter, and 3 centimetres long. To use them, the neck of the uterus is exposed by means of the speculum; a pencil of tannin is introduced by means of the forceps into the os tincæ, and is then pushed into the uterine cavity, and secured there by means of a plug of lint soaked with a concentrated solution of tannin. Once in position, the pencil softens and dissolves, and modifies the tissues with which it is in contact. At the end of twelve hours, the plug of lint is withdrawn by means of a thread attached to it. Every three or four days a new pencil is introduced in the same manner; and after a month of this treatment, the fungous state of the mucous membrane progressively disappears, and the hemorrhages are arrested.—*Edin. Med. Journ.*, Jan. 1860, from *Bull. Gén. de Thérap.*, Oct., 1859.

24. *Influence of Sex on the Diseases of Children.* By R. KUTTNER.—The materials for this essay are derived from the consideration of 10,000 cases of disease, which have been observed at the Children's Hospital at Dresden. The following are the conclusions Dr. Küttner arrives at:—

1. Male infants are far more frequently, and especially during the first year, the subjects of disease of the digestive organs than female infants. It is a well-known fact that they are more difficult to bring up by hand, being much more liable to have the digestive apparatus disordered by defective or erroneous diet. In a relatively equal mortality of the two sexes, a much absolutely greater number of males die of this class of diseases. 2. So also diseases of the nervous system, particularly brain affections, and especially within the five first years of life, are almost twice as frequent in boys as in girls. 3. Finally, boys are far more disposed to hernia (of 116 cases, 75 occurred in them) than girls, and that with regard to both umbilical and inguinal hernia. 4. On the other hand, girls suffer more than boys from affections of the respiratory organs, especially catarrhal affections; for while the former presented 1128 cases, the latter presented but 988. But the difference becomes especially obvious during the fifth year; as the difference, insignificant (873 girls to 843 boys) prior to that age, then mounted up to 255 as compared to 145. Of 498 cases of pertussis, 281 occurred in girls and 217 in boys. Of 17 cases of croup, 9 occurred in boys, and 8 in girls. 5. In organic disease of the heart, a preponderance of females existed, viz., 13 out of 19 cases. 6. In acute blood-diseases, as exanthematous and typhus fevers, sex seems to exert no influence; but such influence is remarkable in the chronic blood-diseases and dyscrases, especially in anæmia, and scorbutus-like depravation of the blood. Of 144 cases of this class of disease, only 26 occurred in

males, and 118 in females. The difference becomes more marked with the advance of life; for while under 7 years of age, 17 boys and 30 girls belonged to this group, between the years of 8 and 13, there were but 8 boys to 88 girls. Scrofula and tubercle exhibited themselves in the proportion of 305 in girls to 269 in boys. Until the course of the second year, there was a preponderance in the males (86 boys to 69 girls); but after the fifth year there were, owing to the greater frequency of pulmonary phthisis among them, 121 girls to 72 boys. Rickets were observed in 577 boys and 610 girls, the disease being later developed and more enduring in girls than in boys. Congenital syphilis was observed in 36 boys and 49 girls. 7. Chronic diseases of the skin occurred in 903 of the 10,000 cases of disease; but no marked difference from sex was observed prior to the ninth year, after which period girls were found much oftener subject (88 to 31), and especially to diseases of the scalp, than boys. 8. Enlarged thyroid gland was met with in 15 male and 35 female children—25 of the latter having passed the ninth year.—*Med. Times and Gaz.*, Dec. 24, from *Journal für Kinderk.*, Bd. xxxii.

—

25. *Angina Pharyngea Œdematosa in Children.*—Dr. Wertheimer desires to call attention to a variety of common angina, characterized by serous infiltration of the submucous tissue of the pharynx. The four cases which he has met with occurred in children of the respective ages of seven weeks, three months, eighteen weeks, and ten months. In all of these difficult and "rattling" respiration first calls attention to the malady, and, on examining the throat, large accumulations of loose, foamy mucus are observed attached to the isthmus and pharynx; and on the removal of this, all those parts possessed of a loose submucous tissue, are found to be excessively swollen—especially the uvula and tonsils. The mucous membrane is pale, smooth, and to the touch soft and sticky. The mucous membrane itself, and especially the glandular apparatus, plays the chief part in the affection. The dyspnœa, although considerable, does not become so urgent as in various other affections, such as œdema of the glottis, croup, etc. The respiration is very noisy, and accompanied by an expiratory snoring sound. The voice undergoes some change, and the cry of the child is less clear, but it is never hoarse as in affections of the larynx, or suffocative as in severe inflammatory affections of the lungs. Swallowing and sucking are difficult, but not painful; but the child chokes frequently, and at last refuses all nourishment. There is not usually any fever present. In two of the author's cases the course of the disease was acute (five and nine days), and in the other two, chronic; and they all recovered. The prognosis of the affection is, therefore, favourable; the prolongation of the disturbance of nutrition being the most unfavourable feature.

Œdematous angina is, in many respects, nearly related to catarrhal angina, but is distinguished by the almost suddenness with which exudation takes place, while, besides the tumefaction of the mucous membrane and the accompanying excessive secretion of mucus, there is also deposited a watery exudation, partly on the surface and partly within the cellular substance. From this result the looseness and fluidity of the secretion, and the peculiarly loose kind of intumescence of the structures implicated. This disease, like catarrhal angina, doubtless in some cases requires an active therapeutical agent; but in other cases assistance is called for. Emetics are then especially useful, the author preferring infusion of ipecacuanha with oxymel of squill; and sinapisms applied to the neck for a few minutes are sometimes desirable. When the affection assumes a chronic form, pencilling the parts with a solution of nitrate of silver is of use.—*Med. Times and Gaz.*, Dec. 24, from *Journal für Kinderk.*, Bd. xxxii.

—

26. *Faradization of the Diaphragm in Asphyxia from Chloroform.* By Dr. Friedberg.—A boy, aged four years, inhaled chloroform from a sponge prior to undergoing an operation for the removal of a small tumour of the lower eyelid. At most ʒj was employed, and in less than two minutes alarming appearances were produced. The pulse had become very small, the respiration consisted only in a short, rattling inspiration, the face was livid, and the limbs were relaxed. Windows were opened, cold water was sprinkled on the face, ammonia

was applied to the nostrils, and a small sponge was carried down to the epiglottis, in order to remove any mucus and to endeavour to excite coughing—the thorax being at the same time rubbed, and sometimes dashed with cold water. These means might have been employed for two or three minutes, when a further change in the child's condition was observable. The pulse had now quite ceased, the countenance was that of a corpse, and the lower jaw had dropped. When the eyelids were separated to examine the pupils (which were dilated), they remained gaping. As no time was, evidently, to be lost, the author had recourse to artificial respiration. He did not endeavour to induce this, however, by the insufflation of air, regarding that as a very uncertain procedure. The methodical compression of the abdomen is a much better one, and was executed. While an assistant compressed the abdomen with both his hands beneath the navel, in order to prevent the viscera receding below, the author pressed the upper portion of the abdominal walls towards the diaphragm, removing the hands then immediately, in order to allow of the expansion of the lungs. This rhythmical procedure was kept up for about three minutes without any appreciable advantage. A complete relaxation of the diaphragm, in fact, existed, as there was neither resistance offered by it to the passage of the hand or any subsequent vaulting of the epigastrium. It was now resolved to Faradize the diaphragm, in order to induce its contraction. One of the conductors of Bois Reymond's induction apparatus was applied over the phrenic nerve (where the omohyoïdeus lies at the outer edge of the sterno-cleido-mastoïdeus), and the other to the seventh intercostal space, pressing this latter deeply towards the diaphragm. The Faradization was performed sometimes on one side and sometimes on the other, the stream being interrupted ten times on the contraction of the diaphragm giving rise to vaulting of the epigastrium, a short sob occurring at the same time. The Faradization being now suspended, a slight spontaneous inspiration occurred, which was followed by a second and third, and a temporary reddening of the face, the pulse also becoming perceptible. Compression of the abdomen was again resorted to, the tension of the diaphragm not offering its proper resistance. The attempt to suspend the compression at the end of ten minutes of its employment was attended with an immediate enfeeblement of the respiration and pulse. It was therefore resumed for another ten minutes, the extremities being also rubbed, the face sprinkled with water, and ammonia applied to the nose. The recovery at last became so complete, that the operation was proceeded with, and the child did very well.—*Med. Times and Gaz.*, Feb. 25, from *Virchow's Archiv.*, Bd. xvi.

SURGICAL PATHOLOGY AND THERAPEUTICS, AND OPERATIVE SURGERY.

27. *Acupressure—A New Method of Arresting Surgical Hemorrhage.*—At the first winter meeting of the Royal Society of Edinburgh (Dec. 19, 1859), Prof. J. Y. SIMPSON made a lengthened communication on acupressure, as a new mode of arresting surgical hemorrhage. After describing the various methods of stanching hemorrhage in surgical wounds and operations, which the Greek, Roman, Arabic, and Mediæval surgeons employed, he gave a short history of the introduction of the ligature of arteries, and spoke of it as the hæmostatic means almost universally employed in chirurgical practice at the present day. But he thought that surgery must advance forward a step further than the ligature of arteries—particularly if surgeons expected, as seemed to be their unanimous desire, to close their operative wounds by primary adhesions of their sides, or by union by the first intention.

Dr. Simpson stated that he had tested the effects of acupressure as a means of effectually closing arteries and stanching hemorrhage first upon the lower animals, and lately in two or three operations on the human subject. The instruments which he proposed should be used for the purpose, were slender

needles or pins of passive iron, headed with wax or glass, and in other respects also like the hare-lip needles commonly used by surgeons at the present day, but longer when circumstances require it. They might be coated with silver or zinc on the surface, if such protection were deemed requisite.

At first, Dr. Simpson believed that in using acupressure as a hæmostatic means, it would be necessary to compress the tube of the bleeding artery between two needles, one placed on either side of it. But in his later experiments upon the living as well as the dead body (as in amputations on the latter, and subsequently injecting tepid water through the arteries, in imitation of the flow of blood), he had found that the compression of one needle was usually perfectly sufficient to shut up an artery, and that even sometimes, when two or more bleeding points were near, they could be closed simultaneously by the action of one needle or pin. The whole process consists in passing the needle *twice* through the substance of the wound, so as to compress together and close, by the middle portion of the needle, the tube of the bleeding artery a line or two, or more, on the cardiac side of the bleeding point. The only part of the needle necessarily left exposed on the fresh surface of the wound is the small middle portion of it, which passes over and compresses the arterial tube; and the whole needle is withdrawn on the second or third day, or as soon as the artery is supposed to be adequately closed, thus leaving *nothing* whatever in the shape of a foreign body within the wound, or in the tissues composing its sides or flaps. To produce adequate closing pressure upon any arterial tube which it is desired to constrict, the needle must be passed over it so as to compress the tube with sufficient power and force against some resisting body. Such a resisting body will be most frequently found, 1st, in the cutaneous walls and component tissues of the wound; 2d, sometimes in a neighbouring bone, against which the artery may be pinned and compressed by the acupressure needle; and 3d, in a few rare cases it may possibly be found in practice, that a second needle may require to be introduced to serve as a point against which the required compression is to be made. Most commonly the first of these three plans seems perfectly sufficient, and that even in amputation of the thigh. In acting upon this mode, the surgeon may place the tip of the forefinger of his left hand upon the bleeding mouth of the artery which he intends to compress and close; holding the needle in his right hand, he passes it through the *cutaneous* surface of the flap, and pushes it inwards till its point project out to the extent of a few lines on the raw surface of the wound, a little to the right of, and anterior to his finger-tip; he then, by the actions of his right hand upon the head of the needle, turns and directs the needle, so that it makes a bridge as it were *across* the site of the tube of the bleeding artery immediately in front of the point of the finger, with which he is shutting up its orifice; he next, either with this same forefinger of the left hand, or with the side of the end of the needle itself, compresses the locality of the bleeding arterial orifice and tube, and then pushes on the needle with his right hand so as to make it *re-enter* the surface of the wound a little to the left side of the artery; and lastly, by pressing the needle further on in this direction, its point re-emerges through the *cutaneous* surface of the flap—and the site of the tube of the bleeding artery is in this way left pinned down in a compressed state by the arc or bridge of steel that is passed over it. The needle thus passes first from and through the skin of the flap *inwards* to the raw surface of the wound, and after bridging over the site of the artery, it passes secondly from the raw surface of the wound *outwards* again to and through the skin. Sometimes the needle will be best passed by the aid of the eye alone, and without guiding its course by the finger-tip applied to the bleeding orifice. It compresses not the arterial tube alone, but the structures also placed over and around the *site* of the tube. When the needle is completely adjusted, all of it that is seen on the surface of the raw wound, and that not necessarily so, is the small portion of it passing over the site of the artery, while externally, upon the cutaneous surface of the flap, we have remaining exposed more or less of its two extremities, namely, its point and its head. The rest of it is hidden in the structures of the flap or side of the wound. The degree of pressure required to close effectually the tube of an artery is certainly much less than medical practitioners generally imagine; but in the above proceeding the amount of pressure can be

regulated and increased, when required, by the acuteness of the angle at which the needle is introduced and again passed out—the cutaneous and other structures of the flap serving as the resisting medium against which the needle compresses the arterial tube. But if it were ever, perchance, necessary to produce greater compression than can be thus accomplished by the needle alone, this increased pressure could be readily obtained by throwing around the two extremities of the needle exposed cutaneously a figure-of-eight ligature, as in hare-lip, with or without a small compress placed between the arc of the ligature and the skin. The process of the adjustment of the needle is difficult to describe shortly by words, but the whole of it is readily seen and imitated when repeated upon a piece of cloth or leather. We fasten the stalk of a flower in the lapelle of our coat by a pin passed exactly in this manner. To compress a bleeding artery against a bone is somewhat more complicated, but not much so. In accomplishing it, we have to introduce from the cutaneous surface a long needle through the flap of the wound obliquely to near the site of the artery, and then compressing, with the fingers of the other hand, or with the end of the needle, the part containing the artery against the bone, we make the needle, after passing over this compressed part, and after testing whether it has clothed the vessel or not, enter into the tissues beyond, and if necessary even emerge from, the cutaneous surface on the other side at an angle somewhat oblique to that at which it entered: thus taking advantage of the resiliency and resistance of the soft textures to make them push the needle with the necessary degree of compression against the artery and bone. Arteries in particular parts require special adjustments and modifications to compress them against the neighbouring bone, which only experience can point out. There is always sufficient soft tissue on either side of the artery for the needle to get a purchase upon, to compress the arterial tube against the bone or other resistant point. In two cases, Dr. S. had found that branch of the internal mammary artery which so frequently bleeds in the bottom of the wound after excision of the mamma, easily and perfectly closed by a needle passed through the flap to near the artery, then lifted over it and (after compressing it so as to stop the flow of blood) pushed onwards into the tissues beyond. Possibly, in some amputations, an acupressure needle or needles may yet be passed, immediately before the operation, half an inch or so above the proposed site of the amputation line, so as to shut the principal artery or arteries, and render the operation comparatively bloodless. If so, these needles would serve, at one and the same time, the present uses of both tourniquet and arterial ligatures. Perhaps this will be found, in some cases, a simple and effectual means of compressing and closing the artery leading to an aneurism—as the femoral artery, for example, in popliteal aneurism—changing the operation for that disease into a simple process of acupuncture instead of a process of delicate dissection and deligation, when in any case the milder methods of compression, manipulation, and continuous flexion of the limb fail. It has been hitherto a difficult problem to obstruct the vessels of the ovarian ligament in ovariotomy, without leaving a foreign body, whether clamp or ligature, upon the stalk of the tumour, to ulcerate and slough through it. If the stalk be transfixed and pinned in its whole breadth to the interior of the relaxed abdominal walls, by one or more acupressure needles passed through these abdominal walls from without, this difficulty may possibly be overcome.

That needles used for the purpose of acupressure, and passed freely through the walls and flaps of wounds will not be attended by any great degree of disturbance or irritation, is rendered in the highest degree probable by all that we know of the tolerance of living animal tissues to the contact of metallic bodies. Long ago John Hunter pointed out that small-shot, needles, pins, etc., when passed into and imbedded in the living body, seldom or never produced any inflammatory action, or none at least beyond the stage of adhesive inflammation, even when lodged for years. Some time ago, when the subject of acupuncture specially attracted the attention of medical men, Cloquet, Pelletan, Pouillet, and others, showed that the passage and retention of long acupuncture needles was attended with little or no irritation in the implicated living tissues. The reviewer of their works and experiments in the *Edinburgh Medical Journal* for 1827 observes,

"It is a *remarkable* circumstance that the acupuncture needles never cause inflammation in their neighbourhood. If they are rudely handled or ruffled by the clothes of the patient, they may produce a little irritation; but if they are properly secured and protected, they may be left in the body for an *indefinite* length of time without causing any of the effects which usually arise on account of the presence of foreign bodies. In one of M. Cloquet's patients, they were left in the temples for eighteen days; and in cases in which needles have been swallowed, they have remained without causing inflammation for a much longer period. It appears probable, from the facts collected on the subject, that metallic bodies of every kind may remain imbedded in the animal tissues without being productive of injury." (p. 197.) All the late observations and experiments upon metallic sutures are confirmatory of the same great pathological law of the tolerance of living tissues for the contact of metallic bodies imbedded within their substance. In the operation for hare-lip, where the whole success or failure of the operation depends on the establishment or not of union by the first intention, surgeons use needles to keep the lips of the wound approximated, often compressing these needles strongly with their figure-of-eight ligatures, and find this measure the most successful means which they can adopt for accomplishing primary adhesion.

The acupressure of arteries, when compared with the ligature of them, appears, as a means of arresting hemorrhage, to present various important advantages: 1st. It will be found more easy, simple, and expeditious in its application than the ligature. 2d. The needles in acupressure can scarcely be considered as foreign bodies in the wound, and may always be entirely removed in two or three days, or as soon as the artery is considered closed; whilst the ligatures are true foreign bodies, and cannot be removed till they have ulcerated through the tied vessels. 3d. The ligature inevitably produces ulceration, suppuration, and gangrene at each arterial point at which it is applied; whilst the closure of arterial tubes by acupressure is not attended by any such severe consequences. 4th. The chances, therefore, of the union of wounds by the first intention should be greater under the arrestment of surgical hemorrhage by acupressure than the ligature. 5th. Pyæmia and surgical fever seem not unfrequently to be excited by the unhealthy suppuration, etc., in wounds which are liable to be set up by the presence and irritation of the ligatures. 6th. These dangerous and fatal complications are less likely to be excited by the employment of acupressure, seeing the presence of a metallic needle has not the tendency to create local suppurations and sloughs in the wound, such as occur at the seats of arterial ligatures. And 7th. Hence, under the use of acupressure, we are entitled to expect both, *first*, the surgical wounds will heal more kindly and close more speedily; and *secondly*, that surgical operations and injuries will be less frequently attended than at present by surgical fever and pyæmia.—*Edinburgh Medical Journal*, January, 1860.

In a subsequent paper (*Med. Times and Gaz.*, Feb. 11, 1860) Dr. Simpson gives some further interesting particulars relative to the practical application of this new mode of arresting hemorrhage.

"For the first application of acupressure to the arrestment of hemorrhage after amputation of the limbs, I am indebted," he states, "to one of the most accomplished and advanced surgeons in this country—my friend, Dr. Greig, of Dundee. Formerly as surgeon to our army in the East, and latterly as surgeon to the large hospital at Dundee, Dr. Greig has enjoyed great opportunities as an operator. His very interesting letters to me on the subject of acupressure indicate the change and struggle which every earnest and ingenuous mind has in setting aside old-established and cherished practices for the adoption of what is new. When I first took the liberty of directing his attention to the subject, as contained in an abstract of a paper on it in the January number of the *Edinburgh Medical Journal*, and asked him to be so good as to test the plan, he wrote me, January 8, 1860, that he could 'see no great difficulty in giving the thing a fair trial.' But he adds: 'Of its general adoption I have great doubts. We have been always taught to look upon the ligature as the only true means of arresting hemorrhage, and this feeling is somewhat difficult to get out of one's

mind. Your illustration of fixing a flower in the lapel of the coat by means of a pin, explains the whole thing.'

"CASE 1. Two days afterwards, January 10, Dr. Greig wrote me: 'I performed amputation at the forearm this afternoon in a case of laceration of the hand from the bursting of a gun, and I used the needles instead of ligatures for arresting hemorrhage. Both the radial and ulnar arteries bled freely, but were easily controlled by a needle placed on each, almost half an inch above the cut end. Both needles were, of course, in the palmar or anterior flap, and were applied *quite as easily as a ligature*.' These last words are underscored in Dr. Greig's letter, and show that thus the very first trial of acupressure proved as easy as deligation in the hands of a surgeon who for years had been in the constant practice and habit of applying ligature to arteries for the stanching of hemorrhage in his operations.

"CASE 2. Three days afterwards, January 13th, Dr. Greig again wrote as follows: 'I have had another amputation at the middle of the forearm to-day, and used acupressure with ease and success. The process, so far as I have tried it, is *the simplest* one can imagine; and, unless I see some good reason for changing my mind, it must ultimately come into universal adoption. It is really surprising how very little pressure is required to stop bleeding from an artery. In fact, I had no idea of it till I tried acupressure.'

"On January 20th, Dr. Greig writes: 'Both the cases of amputation in which I used acupressure have done remarkably well. There has been less irritation and less suppuration, and the wounds are healing more kindly than had ligatures been employed. The first case did not close by the first intention, owing to part of the anterior flap having been lacerated by the explosion. The second has gone on as well as could be wished—no fever, no irritation—and the wound is healing by the first intention. What surprises me more than anything else, is the very small amount of pressure which is required to stop arterial hemorrhage. In passing the needle over an artery I do not think it will be found necessary to turn it sharply over the vessel, thereby binding it very tightly to the flap. Such a degree of pressure is by no means required. Less irritation is caused by passing the needle more lightly across the artery, and taking in more tissue along with it.'

"'It is a great comfort also,' Dr. Greig adds, 'to both patient and surgeon, that by acupressure the artery is closed in about forty-eight hours (a large artery may, of course, require a longer time), and all cause of irritation at once removed. In my first case I allowed the needles to remain in for three days; but in future I will consider two days long enough; and, for all I know, perhaps it is longer than is required.'

"'I have now the greatest faith in acupressure. I intend employing it in all kinds of cases that may come under my care, and I will have no fear whatever to use it in my first thigh amputation.'

"'In giving directions for securing the vessel, you advise the surgeon to place the forefinger over its bleeding mouth, etc. Now you will find it much better when you have a flap to keep the finger of the left hand on the skin side and use the thumb. You feel the vessel beating between the thumb and forefinger, and you can introduce the needle in the dark.'

"I heard again from Dr. Greig, on January 23d. 'The amputations (he states) are doing well, and both patients are walking about the wards. Yesterday (he continues), at a case of removal of the mamma, I again used the needles, and easily arrested the hemorrhage from two arterial branches which were spouting freely in the upper or axillary flap. A small branch of an intercostal was the only other bleeding vessel, and torsion was used for it. Nothing could have been easier or more beautiful than acupressure applied in this case, as the procedure was seen in its simplest form—more so than in a flap.' 'I see,' Dr. Greig adds, 'that in France M. Foucher has tried acupressure on the dead subject, and also on a dog. I wonder why he did not try it in an amputation. Nothing can be easier, and if a surgeon uses it once I am sure he will do so again.'

"CASE 3. On January 30th, I had an opportunity, kindly afforded me by Mr. Edwards, lecturer on surgery here, of applying acupressure to stop the bleeding following an amputation of the foot through the first row of tarsal bones. The

patient had been unable to work for one or two years, in consequence of an injury to the foot, which led to necrosis, and intractable caries of the anterior row of tarsal bones. He was a strumous subject, and his health was much damaged and broken down by the effects of the disease. Mr. Edwards performed the operation with great dexterity and rapidity, and the four or five vessels that bled were easily secured by as many acupressure needles. The section of the astragalus showed the existence of some disease in its cancellated tissue, which necessitated the removal with the gouge of a portion of its structure. The whole surface of the bone laid bare by the saw and gouge was vascular, and continued to ooze out blood as long as it was exposed. But as the patient was so weak and reduced, Mr. Edwards was anxious to close and stitch up the wound as soon as possible, and before the chloroform-sleep was over. The needles were all removed from the stump about fifty hours after the amputation. During the two subsequent days, there twice occurred a slight oozing of blood from the outer angle of the wound, but not more than enough to redden the moist dressings; and this altogether ceased on the removal of an old ash-coloured clot from the situation above mentioned. To-day, eight days from the date of the operation, the stump is healing kindly, and the patient feels well.

"Case 4. In the preceding three cases of amputation, acupressure was effected by passing the needles from the cutaneous surface of the flap, over the track of the bleeding vessel, and then causing their points to emerge through the skin at some distance. In other words, in all of these cases the cutaneous portion of the flap was used as the point of resistance against which the wounded artery was compressed by the bridge of the needle passing over it. In an instance of amputation of the leg immediately below the knee, performed on January 31st, in the hospital at Carlisle, by my esteemed friend, Mr. Page, I had an opportunity of applying acupressure in another of the modes suggested in my paper on the subject, viz., by compressing the principal bleeding arteries against a neighbouring bone as the resistant point. The cause leading to the amputation was very extensive and old-standing, irremediable disease of the tibia. It is, I believe, generally acknowledged amongst surgeons, that in consequence of the deep situation of the two tibial arteries, between the tibia and fibula, and in proximity to the interosseous ligament, seizure and deligation of these vessels in amputation immediately below the knee are, as a general rule, more difficult to accomplish than the ligature of the arteries cut across in any of the other amputations of the limbs. After Mr. Page had removed the diseased limb in the case in question, I stayed the hemorrhage from the two tibial arteries by compressing and closing them with two needles introduced through the cutaneous surface of the anterior flap, about half an inch above the level of the ends of the amputated bones. The points of these needles after producing the requisite degree of compression of the vessels against the bone, were pushed onwards into the substance of the stump behind. They were not, in this way, visible at any point on the raw surface of the stump. The first needle that I passed failed in producing an adequate degree of compression; but the two next succeeded. Half-way down on the inner surface of the large and fleshy posterior flap, an artery gave rise to some difficulty, for a reason which I had not previously prepared for. I passed a needle through the flap, a few lines on the upper or cardiac side of this bleeding orifice, so as to produce a sufficient degree of compression across the supposed track of the vessel leading to it, but without the effect of arresting the hemorrhage. On sponging the bleeding point, and examining it more carefully, we found that the jet from the artery was coming from below upwards, and not from above downwards. In consequence of this discovery I removed the acupressure needle, passed it through the flap nearer its apex, so as to produce compression two or three lines *below* instead of above the bleeding point—on the peripheral instead of the cardiac side of that point—and the hemorrhage was forthwith arrested. Mr. Page closed the wound most carefully with a large number of metallic sutures. He withdrew the acupressure needles seventy-one hours after their introduction. In a letter which I received from him four days after the operation, Mr. Page says: 'The man continues to eat and sleep well. Indeed,' he adds, 'I never had a patient who suffered less after amputation of

the leg; and the condition both of the patient and of the stump is altogether most satisfactory.'

"In addition to the four preceding larger amputations, I have heard of some smaller amputations about the fingers and hands performed during the last month, in which acupressure was successfully used for arresting the subsequent hemorrhage. I saw a case of amputation of one of the fingers, in which my pupil, Mr. Pierce Simpson, operated. The arterial bleeding, as well as some general oozing from the surface of the flap, ceased immediately upon the introduction of an acupressure needle. The finger was irritated, and its vessels full and injected, in consequence of the effects of a severe injury received two weeks previously.

"In one of the extracts from Dr. Greig's letters, the simplicity and facility of the arrestment of arterial hemorrhage by acupressure, as compared with the ligature, is adverted to. Any surgeon accustomed to try both will speedily find acupressure to be far the easier and the more expeditious process of the two. Besides, in applying ligatures, the operator always requires the aid of an assistant; he can himself, however, apply acupressure needles without any such aid. While acupressure is thus far simpler in its application, it will also, I firmly believe, be found also far surer in its results as regards all the chances of obtaining complete reunion of the sides of the flaps by the first intention; and far safer too as far as respects the avoidance of the dire mischances of surgical fever from the absorption of morbid and septic matters formed by local suppurations and sloughs in the depths of the wound. Every ligature applied around the isolated extremity of a bleeding artery inevitably tears and mechanically lacerates the two interior coats of the artery, and afterwards inevitably produces ulceration, suppuration, and local gangrene at the tied point, before the thread can separate and become detached. No such severe and morbid local consequences necessarily result when a bleeding vessel is closed by the temporary contact of a needle."

---

28. *Non-reducibility of Fractures of the Long Bones.*—M. GOSSELIN observes (*Gaz. Hebdom.*, Nos. 9 and 11, 1859) that so generally do the books lay down the law that all fractures are reducible, that a surgeon is at first surprised when he discovers the fallacy of the statement.

The following is a brief summary of the author's views on the subject:—

1. Even in cases in which there is no displacement, and there can be neither altered direction nor shortening, there may still be deformity, produced by a persistent increase of the size of the limb, at the level of, and to a certain distance above and below, the fracture. This deformity is of no great importance as long as the hypertrophied bone is not painful; but M. Gosselin has met with cases in which pain persisted for years, and kept the patients from their occupations for a far longer period than is usually the case after fracture of the leg. He cites two of these cases.

2. *Muscular atrophy* is another cause of consecutive deformity, and sometimes of irremediable diminution in the strength of the limb. Nothing is more common than muscular atrophy after fracture, both in relation to the fractured segment of the limb, and to the segments above and below this. In almost every case a notable diminution of the whole of the limb is to be observed, except in the instance of fracture of the clavicle, which does not seem usually to be followed by muscular atrophy of the limb. The *cause* of this atrophy has been attributed by some to the compression exerted by apparatus, and by others to the prolonged immovability of the limb. M. Gosselin is disposed to search for the explanation in the diverted nutrition of the parts consequent upon the reparative process of the fracture. At all events, he is of opinion that the atrophy does not depend upon causes from the operation of which a surgeon can shield his patients. Thus far, any means he has tried to remove this condition—as electricity, shampooing, &c.—have been of little avail; but this may arise from the patients not deeming the amount of inconvenience they suffer sufficient to induce them to undergo a prolonged treatment.

3. The displacements consequent on a fracture offer some varieties: 1. The displacement, according to the direction of the limb, can usually be very well

reduced, and it is in relation to it that the intervention of art is usually of utility. Still, the author refers to two cases of fracture of both bones of the leg, in which, in spite of every care, an angular displacement occurred; while certain cases of fracture of the fibula, whatever apparatus may be employed, and whatever care taken, are followed by a little abduction of the foot, and slight elevation of its external border. 2. Displacements according to circumference are rarely irreducible. Still, this is the case with a considerable number of fractures of the neck of the femur, with permanent penetration of the upper into the lower fragment, rotation outwards not being corrigible by other than imprudent attempts. M. Gosselin has likewise met with three cases of fracture of the leg in which irreducible displacement in the circumference has occurred. 3. Of the displacements which take place according to thickness, some are corrected easily, and are not reproduced; others are reproduced again, until prevented by diffused pressure; and others, again, are irreducible, do what we will. In several instances the author has been unable, in fracture of the leg, to place, even with the aid of chloroform, an upper or lower fragment which projected beyond the other. This he attributes to the indentation of the fragments, the teeth not fitting into each other during the efforts at reduction, except as a mere matter of chance. 4. In considering the displacement according to length, besides the part played by muscular action, account has not been taken of the considerable crushing of the bone which results from the reciprocal pressure of the fragments. Here there will be shortening of the bone, with impossibility of restoring it, the shortening even becoming augmented by subsequent absorption.

4. *Fractures near Joints.*—The frequency of fractures near joints, and the great liability to them of subjects aged more than fifty years, has been long known; but M. Vollemier, by introducing the term *penetration* in relation to fractures of the lower end of the radius, MM. Hervey de Chegoin and Robert, by demonstrating such penetration in fractures of the neck of the femur, and M. Trélat, by calling attention to intracondylian fractures of the lower end of the femur, have given quite a new impulse to the study of this description of fractures. But still there are wanting a generalization of these new facts and clinical deductions. In fact, these various fractures resemble each other in their mechanism and their lesions. 1. The fracture of the extremity of a long bone may take the transverse direction, and be unaccompanied by any crushing of the spongy tissue. This is the only fracture, indeed, recognized prior to Vollemier's investigations, but it is the most rare. 2. More frequently one of the fragments becomes so forced into the substance of the other that the penetration remains permanent, the spongy substance of the penetrated fragment being completely crushed. If the two fragments be separated, an accidental cavity will be seen to be hollowed out by the penetrating one, the latter usually presenting an irregular or toothed surface, which enters into such cavity. This variety is especially met with at the cervix femoris, and at the lower end of the radius. 3. In other cases one of the fragments presents the depression and crushing of the spongy tissue, but the other is not lodged in this depression, and is removed from it some millimetres in front or behind—penetration having in fact taken place at the time of the accident, but not being maintained. This disposition is especially met with in the radius, and is more rare than the preceding or subsequent variety. 4. One of the fragments, usually the shorter, may be comminutively fractured, the penetration being more forcible and deeper than in the preceding cases. This variety is observed in stelliform fracture of the radius, in fracture of the neck of the femur, when the great trochanter is fractured at the same time, and in fracture of the lower end of the femur, when there are at the same time intra- and supra-condylian fracture. To these cases a proper clinical import has not been given, and fractures are described just as formerly. But how are we to reduce fractures when their fragments are so solidly penetrated and ingrained as to be scarcely separable, even after death; or when one of the fragments has become shortened by crushing or by comminution? It is evident that surgery can do nothing here, and that the limb must remain enlarged and shortened, and that the action of the joint must be impaired.

5. *Therapeutical Conclusions.*—It is not the author's object to deter from attempts at reduction of fractures. These, he admits, must be made, and, in

case of failure, repeated. But when complete adaptation cannot be thus obtained, and the failure is explicable on one of the grounds mentioned, attempts should not be multiplied, or complicated and expensive apparatus resorted to. In the author's opinion, a careful and attentive surgeon may obtain with the most simple appliances all possible results. The consecutive deformities or imperfections may be inevitable; and it is an illusion to suppose that in all cases they may be completely prevented.—*Med.-Chir. Rev.*, Oct., 1859.

29. *Tracheotomy in Croup.*—The number of the *Edinburgh Medical Journal* for February last contains an interesting paper, by Mr. JAMES SPENCE, on this subject, in which he advocates the propriety of the operation in extreme cases, as not only warrantable, but as giving the patient the only chance of life.

He states that out of thirteen cases of croup in which he has operated in the last suffocative stage, six have been saved; and that in cases which subsequently proved fatal, great immediate relief from the agonies of suffocation was afforded. Moreover, he states "that out of the seven fatal cases, one was labouring under the sequelæ of scarlet fever of a severe character, and was completely relieved as regarded the breathing, but sank from persistent vomiting and emaciation; another, F. S., was an acute case of croup supervening on congestive scarlatina with cynanche maligna; in a third, the disease appeared in the progress of measles, also of a congestive character; and a fourth was a child only recently recovered from a severe attack of scarlatina. Now, whilst I would not like to exclude even such cases from the benefit of the temporary relief and the chance of life which tracheotomy affords, still it is evident that the chance in such cases is very much less than in uncomplicated croup, and that the result of such cases must tend unduly to reduce the average success of the operation."

"Tracheotomy," he adds, "cannot, indeed, be expected to be so successful in croup as when performed in œdema glottidis or ulceration of the larynx, or even as in acute laryngitis of adults, because in many cases of croup there is a tendency in the diseased action to spread downwards; on the other hand, what I have observed both as regards the invasion and progress of the disease as shown by the symptoms, and more especially from observation and experience derived from cases in which I have operated, I feel convinced that in many cases of croup the disease is more confined to the larynx than is generally supposed, and that, when it spreads, it does so from the larynx downwards, and does not attack the mucous membrane of the trachea simultaneously with the larynx, or, as some would have us believe, attack the trachea and bronchial mucous surface before affecting the larynx. Post-mortem examinations reveal to us the completed disease, not its progress—that must be derived from observation of phenomena during life; now, to say nothing of the ordinary progress of the symptoms, the immediate relief afforded by the operation in all cases, even in those which subsequently terminated fatally, shows conclusively that even in the fatal cases no disease of the lower part of the trachea could have existed at the time; otherwise the operation could not have afforded the relief it did. As to the presence of bronchitis being a contra-indication to the performance of the operation—a point which I was inclined to insist on in my former communication, though I would not go so far as some continental surgeons, who consider it absolutely favourable—I must modify my former opinion, inasmuch as in most of the successful cases it was present, and when the tube was properly managed the mucus was easily expectorated; and perhaps it may be considered favourable in one sense, as indicating a condition of the mucous membrane less predisposed to the formation of plastic exudations."

With regard to the question of operating at an early stage, Mr. S. says: "It has been plausibly urged, that the success of the operation would be greatly increased if it were performed before the symptoms became very urgent. So far as I can judge from the reports of the discussion in the Academy of Medicine, M. Trousseau's doctrine is to operate as early in the second stage of the disease as possible, when the presence of false membrane or exudation is ascertained from the suppressed and less frequent coughs, the fits of dyspnœa, with intervals of perfect quietude. Now, recoveries by the use of other remedies in this stage, though rare, are not so rare as to entitle us to urge an operation not

free from danger in itself, unless we are prepared to show some good grounds for believing that by early operation we could greatly increase the chance of success: 1st. By early relief of the dyspnœa preventing the bad effects of the gradually increasing imperfect aeration of the blood, local pulmonary congestion, or emphysema; or, 2d. By preventing the extension of the membranous or plastic exudation downwards. The former of these indications, I believe, would be met by early operation; the second, and more formidable, I doubt, would not; for the cases I have operated on show that in certain cases the tendency to tracheal and bronchial exudation continues to spread downwards after the operation has afforded a period of relief, if it be not even increased by the presence of the tube. The late Mr. Liston used to object to tracheotomy in croup, on the ground that, if we operated early, there was no physical obstruction to the breathing to warrant it, and that if we delayed till the symptoms were urgent, the tracheal exudation rendered the operation useless. To neither of these propositions can I assent; but I think we are hardly warranted in operating till all remedies have been actively tried and no other chance remains; then there should be no delay. Here, as in many cases, the period of the disease, as regards time, is no criterion. If, in a case of croup, depletion, the warm bath, emetics, counter-irritation, calomel, and other remedies have been actively used without relief—if the hard, ringing cough has become suppressed, and the respiration is evidently imperfect, as shown by the contracted and depressed appearance of the cartilages of the ribs and occasional severe paroxysms of dyspnœa—for my own part, I would say that the operation is fully warranted. When the paroxysms become more and more frequent, and when the dyspnœa is rather persistent than paroxysmal, with turgid or pale lividity, the operation is the little sufferer's only chance for life."

Mr. S. believes that success depends a good deal on the manner in which tracheotomy is performed, and he gives the following directions:—

"There ought to be no attempt at rapidity or brilliancy in this operation; every step should be methodically gone about. First, as regards the position of the infant, the shoulders should be well raised, the head bent moderately backwards and supported by an assistant, who should pass one arm under the pillow behind the neck, so as it were to project or support it forwards, whilst with the other hand he keeps the head fixed with the chin in the middle line as a guide to the surgeon; the arms and legs may be controlled by a small sheet or large towel pinned round the body, the arms placed by the side; and when thus secured, one person can control the movements: care should be taken to see that the teeth are not firmly closed, but that the mouth be partially open and the nostrils kept free.

"The external incision should begin over the cricoid cartilage, and extend downwards exactly in the middle line for at least two inches. In general, two large veins, one on either side of the mesial line and close to it, are seen when the skin is divided; the fascial texture between these, corresponding to the intermuscular line, is readily divided by the point of the knife, and then these veins can be easily drawn aside. Sometimes one crosses the line to join the other, and is embarrassing, and may even require to be divided after being secured by ligatures. But the point most to be attended to is caution after separating the tracheal muscles. If the finger be placed deep in the wound at this stage, the trachea is felt pretty distinctly, and may seem so distinct as to warrant the surgeon entering the bistoury to divide the rings; but I hold this ought not to be done, because not only may there be the substance of the thymus gland flattened under the finger, but deeper, and passing from that gland to the thyroid, there exist numerous vessels which would bleed profusely. I have more than once pointed out this to the gentlemen assisting me at my operations. After separating the lobes of the thymus gland, even after these vessels and the thymus are pushed aside, I clear the rings of the trachea with the knife from loose cellular tissue, so that there may be no obstruction to the entrance of the silver tube when the opening is made in the trachea. On the tube being introduced, the head should be bent slightly forwards.

"The form of the tube itself is important: it ought to be of such a size as will admit air freely without over-distending the trachea, and always double; the

inner tube fitting pretty close, but not secured to the outer, either by spring or other fastening, so that it may be easily removed for cleaning, or expelled by the efforts of coughing, if obstructed by mucus.

"In the after-treatment, when there is much bronchial effusion, the use of emetics is very beneficial; but under no circumstances would I now resort to antimony, for its effects are most dangerous, as diminishing the expulsive power, and depressing the patient, inducing sinking. I am glad that my opinion on this head is strengthened by the high authority and great experience of M. Trousseau. In all respects, I find ipecacuan answer better as an emetic, without depressing or leading to dysenteric purging, whilst it induces moderate diaphoresis and allays the febrile condition. M. Trousseau is very decidedly opposed to the use of blisters in these cases, on account of the sloughing which follows. But in this respect I cannot so fully concur; for though I would be far from advocating the use of the ordinary fly-blister, still I have found the application of the liquid blister highly useful in some cases of bronchial complication, and when carefully attended to, I have never seen any bad results.

"In regard to diet, in many cases it is necessary to give beef-tea and wine from the first; but in general I prefer for the first day or two a nutrient non-stimulating diet, such as milk and farinaceous food, and afterwards gradually giving animal food; but in respect to this we must be guided by the condition of each individual patient."

—

30. *New method of treating Anthrax.*—Dr. T. R. BLACKLEY relates (*Dublin Medical Press*, Jan. 18, 1860) the following case of anthrax with a view of illustrating a new mode of practice which he recommends:—

About fourteen or fifteen years ago, taking a stroll not far from my residence in the country, I was requested by a poor woman to visit her husband, who lived in a cottage. He was a worn-out man, about 60 years of age, very thin, and with a countenance full of pain and anxiety. On examination, I found he had an enormous anthrax covering the inferior portion of the scapula, and extending from its anterior edge to the spinous process of the vertebræ. My first impression was that the disease was too far advanced for operation; my second, that it was the only course which held out a hope. I had no instruments, save lancets, in my pocket; but, inquiring if there was a razor in the house, was presented with one; with this I made a full and free crucial incision through the tumour. The edges of the wound bled freely for a little, but, that having subsided, I ordered a large poultice to be applied, and his strength to be kept up. On the following day I found the surrounding inflammation had diminished to a great extent, but as I looked on the emaciated frame, and a countenance almost Hippocratic, I felt the poor fellow, with every support, could not survive the separation of the slough.

As I thus reflected, I raised an angle of the skin, stretching the slough which firmly adhered to it, and an idea suggested itself on which I instantly acted. With a forceps and scissors I nipped away the entire slough from the sound parts, going as close as possible to the latter without wounding them, and drawing the edges of the wound into contact with adhesive plaster, I applied a bandage and waited the result. The slough when removed might have filled a wine-glass. I thought it would have been larger, as previous to the operation the tumour in extent was the size of a plate, but as much of its fluid contents were removed with the poultice, the size of the dead cellular mass was proportionably diminished. In a couple of days I could scarcely credit the improvement which had taken place. The edges of the wound were united through two-thirds of their extent, and in the course of a week, with the assistance of porter, wine, and animal food, a central wound, not larger than a florin, and on the high road to cicatrization, remained. Had the slough been allowed to separate spontaneously, or even with the aid of turpentine and warm dressings, I question much if such a happy result would have taken place, as nature (at best with all the assistance I could have rendered her) would have required as many days to produce that condition of parts which the scissors effected in as many minutes, and at that critical stage of the disease when a day or two of suffering or relief might make all the difference between *cita mors aut victoria tæta.*

31. *Treatment of Cancer by Caustic Potass and Chloride of Zinc.*—By MM. Salmon and Maunoury, surgeons to the Hôtel Dieu, at Chartres. After a communication on this matter extending over no fewer than seven numbers of the *Medical Gazette* of Paris, and in which numerous illustrative cases are referred to and fully detailed, these gentlemen come to the conclusion that this method of procedure, in so far at least as tumours of a cancerous nature are concerned, is attended with no greater success than that of treatment by the knife; and that the apparent success of those who have advanced such exaggerated statements as have been published regarding it, seems altogether due to the fact of *cicatrization* following the application of caustic being more rapid than that following the treatment by excision.

In concluding their remarks on the subject, they observe: The favourable reception which has for some years been extended to the operation by caustic may be regarded as a mere reaction against the use of the bistoury, omnipotent as it has always stood in the surgical hospitals of Paris. Such a reception attracted the attention of surgeons; but it was soon found that the real efficacy of the new style of treatment had been greatly exaggerated by its partisans, and that, notwithstanding its advantages in respect to a less amount of inflammatory reaction, the almost total absence of any risk of purulent infection, and the hemorrhage being next to none at all, the recurrence of the disease was more frequent after the employment of caustic than after extirpation by the knife.

No doubt the advantages here mentioned are not without their value. Diminished inflammatory and purulent fever, and the avoidance of hemorrhage, are certainly obtainable by the use of caustic; but for ourselves, who in a great number of cases have practised, and have seen practised, the operation by this means, we consider that in eight cases out of every ten the bistoury is preferable. Especially do we deny the efficacy of caustic in preventing a return of the disease; in seven cases of cancerous tumours in the axilla thus removed, both in the hospital of Chartres and in private practice, have we seen the reappearance of the malady, and a fatal result. All our cases have thus terminated fatally from reaccession of the disease, sometimes in the same situation, sometimes in another part of the body; and according to our recollection of numerous cases thus treated at Chartres by M. Girouard, he was no more successful than we have been.

We therefore completely coincide with the opinion of M. Bonnet, of Lyons, that the Canquoin caustic (*caustique Canquoin*) affords no greater security than does excision against the recurrence of cancer. As we have said, the fact which misleads the more credulous class of patients, and those medical men favourably disposed towards the use of caustic, is the rapidity of cicatrization, especially after the application of the chloride of zinc—the establishment of cicatrization, even over the cancerous tissue itself, being a result of such treatment.

Looking at all the facts relative to the extirpation of cancer by such means, we therefore, along with nearly all surgeons, are disposed to ask, whether, after this operation, one single case of an undoubted and permanent cure can be pointed out. Up to the present time, we deny that any such case has occurred; and we have learned, by experience, to mistrust those observations on cases of the kind which have been so prematurely published—neither the return of the disease nor the death of the patient having had time to take place.—*Edin. Med. Journ.*, Feb., 1860, from *Gazette Médicale*, Nov., 1859.

—

32. *Employment of Iodide of Potassium in the Treatment of Aneurisms.*—The *Gazette des Hôpitaux* has lately reported a clinical lecture of Professor Bouillaud upon aneurisms, and upon the results of the treatment of aneurismal tumours by the iodide of potassium. One of the patients was a man suffering under an aneurism of the brachio-cephalic trunk and aorta, and the other was a woman with an aneurism of the carotid artery. In the latter case, the iodide of potassium was administered for some days in the dose of a gramme, and afterwards in doses of two grammes for two months. At the end of this period, the tumour, which was at first as large as a pigeon's egg, had diminished so much that it might be considered to have disappeared completely. In the case of the man, the tumour, which was of considerable size, underwent displacement con-

temporaneously with a very well-marked diminution in volume, under the same treatment as that adopted for the woman. At the time of the report, however, the man was still under the treatment by iodide of potassium, and therefore no positive conclusions could be drawn. M. Bouillaud has treated other cases with iodide of potassium. In the case of a man with a large aneurismal tumour at the point of origin of the carotid and subclavian arteries, he found that the swelling was considerably diminished in a few weeks by the use of the iodide. In another patient, treated in the same manner for an aneurism of the carotid artery, he observed at the end of a few weeks that the tumour had almost entirely disappeared. These cases are considered to be sufficiently satisfactory to encourage practitioners in making further trials of the iodide of potassium in aneurismal tumours.—*B. and F. Med.-Chirurg. Rev.*, Jan. 1860.

33. *Treatment of Gonorrhœa and Gleet without Copaiba.*—Mr. WEEDEN COOKE read a paper on this subject before the Harveian Society, Jan. 19, 1860. After referring to Sir Astley Cooper's method of treating gonorrhœa, the author stated his belief that he was only giving utterance to a largely-acknowledged experience when he ventured to affirm that copaiba, in the treatment of gonorrhœa, was not only unnecessary, but that it was in a great many instances injurious, and that in all it was offensive to the last degree. During the last fifteen years at least six thousand cases of gonorrhœa had come under the author's care at the Royal Free Hospital, and he had availed himself of these large opportunities to test all the methods of treatment which had been suggested, in order to arrive at the safest, quickest, most efficacious, and least disagreeable mode of curing this disease. As introductory to the subject of treatment, Mr. Cooke discussed the subject of the cause of chordee, the reason for the scalding of the urine, the distinction between true and spurious gonorrhœa, and the time when infection may or may not be apprehended. The conclusions he arrived at were:—

1. That chordee, in ninety-nine cases out of a hundred, was due to spasm, and not to effusion of lymph; and that cubebs, acting as an antispasmodic, formed the most efficacious remedy for this symptom.

2. That the scalding was the result of the acid urine passing over the highly inflamed mucous surface of the urethra; and that this was to be remedied by the administration of the alkaline carbonates for the purpose of neutralizing the acidity of the urine, thus removing the principal cause of the continuance of the inflammation.

3. That, in all disputed cases, the true gonorrhœa may be known from the spurious by the presence of redness, heat, pain, and swelling, together with a purulent discharge, more or less green and offensive; whilst a discharge produced by connection with a person who has leucorrhœa, or has recently been confined, will not be accompanied with these inflammatory signs, and the discharge will be milky in consistence and colour, differing much from the thick purulent discharge of the veritable gonorrhœa.

4. The time when infection may or may not be apprehended was discussed, in its incubative stage and at its close. A case was given, showing that the disease may be caught from one person, and not communicated to another two nights after, because the purulent discharge had not commenced at the time of the second intercourse. Respecting infection at the close of the disease, the author had been enabled, from experience, to establish as a law for his own guidance, that gleet—*i. e.* a mucous discharge from the urethra, consequent on gonorrhœa—does not set up gonorrhœa in another person; but that, whilst any pus is to be found in the discharge, there is probability of infection.

Passing on to the subject of treatment, Mr. Cooke said that, upon inquiry at the London Custom House, he found that 118,396 pounds of copaiba were admitted into the port of London only during the first ten months of the year 1859. If this be administered at the rate of half a drachm three times a day, and supposing each patient takes it for three weeks, we have here copaiba enough to treat 473,584, or close upon half a million persons, and that in ten months only of the year. Considering how often it fails to cure the disease; how frequently it is rejected by, or at any rate disorders, the stomach; how tell-tale and disagreeable is its odour from the mouth and skin; how occasionally it produces a

papular eruption all over the body; and that, in many instances, swelled testicle and stricture may be traced to its irritating influence, while gonorrhœa, rheumatism, and ophthalmia have been attributed to its administration: "considering all these objections," the author remarked, "is it not extraordinary that this disgusting medicine continues so long to hold its ground?" The abortive treatment by strong injections of nitrate of silver had proved a failure, because in some instances inflammation of the bladder had resulted. The treatment by diluents was slow in its action, and not readily employed by persons engaged in active business. That by diuretics was scarcely more successful; whilst the administration of saline aperients was generally attended with an aggravation of the ardor urinæ as well as chordee. The treatment which had been most successful in the author's experience was the chemical treatment by the alkaline carbonates, given with a view of neutralizing the acid in the urine. Thus one great source of irritation was removed from the inflamed urethra, and the subsidence of the inflammation, which nature would effect, was allowed to take place. As auxiliaries, especially when there is œdema of the prepuce, lead lotions, and elevation of the penis against the abdomen, were commended. The inflammation having subsided, and a muco-purulent discharge being left, the author had found, after giving trial to all the injections which have been at any time in vogue, that the chloride of zinc, introduced into this branch of practice by Mr. Lloyd, of St. Bartholomew's, was the most efficacious of any in curing the disease, and that with less discomfort and in a much shorter time than by any other means. Since employing this treatment he had had little, if any, orchitis amongst his patients. The strength of the injection he most commonly employed was two grains to the ounce, but in some instances one grain to the ounce was sufficient. Whilst advocating this treatment in persons of healthy constitution, it was necessary to completely change it in others. In the strumous, in the dyspeptic, in those of dissipated habits, and where the diseased person is an old offender, the alkaline carbonates are not called for, because either the urine is not acid, or the inflammation does not run high. In such cases the tincture of iron, or sulphuric acid and bark, or gentian, or calumba, may be advantageously employed from the commencement; and the chloride of zinc injection, in these cases, is also of the utmost value in rapidly overcoming the disease.

Respecting diet, the author considered that after the subsidence of the inflammatory symptoms scarcely any restriction need be enforced, and that beer or wine in moderate quantities may be advantageously used by those who are accustomed to these beverages. He had found long-established cases of gleet yield readily to the chloride of zinc injection, accompanied with tonic treatment and generous living.

In conclusion, he would rejoice if the treatment he had found so serviceable should be followed out by others, and thus assist in banishing altogether from surgical practice the use of so nauseous a drug as copaiba.—*Med. Times and Gaz.*, Feb. 4, 1860.

---

34. *Treatment of Blennorrhagia by Vinum Colchici and Tincture of Opium.*—Dr. Eisenmann, of Würzburg, states that he once had occasion to prescribe a combination of vinum colchici and tincture of opium for an officer affected with rheumatic conjunctivitis, and a few days afterwards he was informed that the medicine had cured not only the ophthalmia, but also a blennorrhagia, of which no mention had been previously made. He was surprised at this result; but he resolved to profit by it, and to try the same treatment in other cases. He therefore prescribed the medicine for a girl affected with blennorrhagia, and was again surprised that a permanent cure was effected in a few days. Nothing was ordered externally, except frequent applications of tepid water. Subsequently, several cases of blennorrhagia in the male presented themselves, and were treated in the same manner. The dose employed was eighteen to twenty drops, three times a day, of a mixture consisting of twelve grammes of vinum colchici with two grammes of tincture of opium; milk was ordered as the principal article of food, and absolute rest was enjoined. All the cases of blennorrhagia thus treated were cured without exception in a few days, especially when the treatment could be adopted at the commencement of the affec-

tion, and none resisted longer than a week. The observations of Dr. Eisenmann have been confirmed by those of M. Collin, of Dresden, who treated ten cases of blennorrhagia with the greatest success by the mixture of vinum colchici and laudanum. The patients did not recover so rapidly as those treated by Dr. Eisenmann; but the latter physician attributes the difference to the probable inferiority of the drugs employed, and to the fact that the patients did not consult a medical man at a sufficiently early period.—*B. and F. Med.-Chirurg. Rev.*, Jan. 1860, from *Bull. Gén. de Thérapeutique*, May 15, 1859.

—

35. *Falls from Great Heights followed by very Slight Injury.*—Mr. GEORGE MALLETT relates (*British Medical Journal*) the two following remarkable examples of this:—

CASE 1. Occurred about sixty years ago; and about twenty-five or twenty-six years since, it came to my knowledge under the following circumstances:—

At the period last named, I was requested to visit a poor man, who had been suffering severely for four days. I found him in great agony from retention of urine, none of which had passed from the bladder for four days. Many ineffectual attempts had been made for his relief by an irregular practitioner, but, unfortunately, he had been unable to introduce the catheter. The patient was about seventy years old, and presented the following symptoms: The skin was hot; the face red, and much emaciated; the pulse was rapid and very feeble; the mouth and tongue hot, parched, and covered by a thick coating of dark fur—in fact, presenting such an appearance as would be expected from so long a retention of urine. With great difficulty, a large catheter was introduced, and from five to six pints of urine were drawn off: the first was very ammoniacal, and the latter portion semipurulent and bloody. The catheter was introduced twice a day for three days, when the man died.

The day before his death he was very cheerful; and, in a jocular manner, said, "that in his younger days he had met with a bad fall, but he feared he had then suffered a worse one, as he had fallen into the hands of the doctor." He explained himself by stating, that when placing some of the masonry upon the highest part of the tower of a church, called St. George's, in this town, his foot slipped, and he was precipitated from the top to the bottom, the distance being at least one hundred and twenty feet; and that the fall was uninterrupted by any intervening scaffolding, so as to diminish the impetus of the descent. He added, that he was so little injured, that he was able to resume his occupation in a few days.

Upon making subsequent inquiry, I found his story to be strictly correct, with the addition, that his head fell upon some sheet lead, which was extended upon the ground; and that the force was so great that a deep impression was made upon the lead by the skull.

CASE 2. On December 8, 1859, I was called upon to visit another curious case, which recalled to my recollection the notes I had made of the preceding one.

A collier, aged about fifty, was descending a pit or coal-mine in a way frequently followed; but certainly such a mode of descent ought not to be permitted, as it is unquestionably dangerous. The descent is made by placing one foot in a ring or kind of stirrup, at the same time holding the rope with one or both hands. He had not descended more than four or five yards, when by some accident, which he cannot explain, his foot was knocked or slipped out of the ring, and his hold of the rope at the same time giving way, he fell at once to the bottom of the pit, a distance of at least one hundred and thirty-five feet. There was nothing to break or mitigate the force of the fall. He was found alive, but groaning, and constantly muttering, "O my children! O my children!" He was brought up; and I saw him about an hour after the accident. He appeared to be moribund. The pulse was not to be felt at the wrist, the extremities were cold, and respiration very difficult and painful. The slightest motion gave exquisite pain, and I could not attempt to ascertain what amount of injury the trunk had sustained. There was some contusion with extravasation of blood at the posterior part of the right thigh, a slight laceration of the scalp, and the knuckles of both hands were slightly excoriated and swollen, probably from his instinctively throwing out his arms in the vain hope of saving himself, and so

striking the sides of the pit. These were the only injuries I could discover, as all the bones of the extremities were sound. He was placed in bed in the easiest position, which was lying on his back, but rather inclining to the right side. Bottles filled with hot water and hot bricks were applied to the extremities; and brandy and water was ordered to be given every half hour, until warmth was restored.

I then left him, and certainly did not expect to see him alive again; but, to my surprise, on the following morning, I found him much improved. His pulse, although still feeble, was regular and distinct; warmth had also returned to the extremities. The bladder had emptied itself naturally. The chief complaint now appeared to be on the right side; a careful examination of which showed that three or four of the lower ribs were fractured, which, upon the slightest movement, caused great suffering, and rendered the breathing so difficult, as to threaten instant suffocation. The chest was bound up; and beef-tea, etc., were ordered.

On the third day the bowels were moved, the pain diminished, and the respiration easier. From this time the improvement was gradual, and without interruption; so that, on December 25th, he was so much improved as to be able to walk down stairs, and the only remaining complaint was a slight pain at the side when drawing a deep inspiration.

I have said little or nothing respecting the treatment, simply because little or no treatment was required. It was one of those numerous cases of which it has been justly said, "Nature cures, and man has the credit."

Undoubtedly, it is difficult to conceive, under any circumstances, how the human frame could without greater injury have sustained such shocks as must have been inflicted upon them in these cases. It would have been natural to suppose that the momentum or force acquired by the bodies falling through so great a space, would have been sufficient to dash them into mangled and disorganized masses, more especially as they could not have fallen upon substances more unfavourable—lead in the one case and the solid rock in the other.

OPHTHALMOLOGY.

36. *Antiphlogistic Powers of Morphia.*—Dr. Z. Laurence relates (*Med. Times and Gaz.*, Dec. 31, 1859), several cases of sclerotitis and of iritis, treated by morphia.

These cases he considers "establish an important practical fact, viz., that morphia is *per se* a powerful antiphlogistic,[1] capable of curing these acute inflammations of the eye, in which up to the present time bloodletting, blistering, and mercurialization have been considered necessary. As regards loss of blood, all will be agreed on the propriety of dispensing with it, where it can be done so with safety. Again, how constant an occurrence is it to see paroxysms of acute inflammations for a time apparently relieved by bloodletting, till the subsequent vascular reaction sets in, but to recur again and again, and require as many repetitions of this same objectionable remedy. I would further ask surgeons and physicians, What evidence have they that in the combination of mercury and opium given with a view of 'putting the patient under the influence of mercury,' as it is termed, it is not really the *opium* which does the good, and that the mercury and its action on the mouth may not be, to say the least, useless![2] And I would finally ask the physicians of this country to test the pow-

[1] In all the cases mentioned, the patients had been using warm fomentations to the eyes before applying at the hospital.

[2] Again, mercury is presumed to have an "absorbing power" over plastic effusions, such as occur in acute iritis: here, too, it is a fair question whether the absorption of the inflammatory exudations is not rather a natural process, supervening on the cessation of the inflammation (such as we daily see in the absorption of divided cataracts, after the operation by solution, as soon as the inflammatory consequences of the operation have passed off), than any, if I may be allowed the expression, "mercurial" process?

ers of morphia in the treatment of the acute inflammations of the internal organs of the body."

"If we seek for an explanation," says Mr. L., "of the above very remarkable action of morphia, in reducing abnormal fulness of the vessels of the sclerotic, we may find it in the relations of pain to vascular congestion. Pain has generally been regarded rather as the effect, than as the cause of the repletion of blood-vessels; but it is quite an open question, whether or not in certain classes of cases the order of things may not be inverted? Such may be the case in the inflammations of the sclerotic, we have just been discussing. That, on the other hand, vascular congestion may react as a cause of pain, is not improbable. The theory I would submit is, that the action of morphia in these cases depends on its known power of reducing nervous irritability, which may be viewed as the primary cause of the inflammation. In these deep-seated inflammations of the eye this view is very much borne out by the seat of the pain; this will be found to follow strictly the branches of the fifth nerve; indeed, the precision with which the patients themselves localize the pain is very remarkable, whilst we have further evidence of the nervous nature of these cases in the intense watering of the eye (dependent on irritation of the lachrymal branch of the fifth nerve). In this way I conceive the irritation is propagated to the vessels through the intervention of the connections existing between the fifth and sympathetic nerves."

[We cannot doubt the beneficial influence of morphia in some cases of inflammation of the eye, especially those attended with severe pain, but we must be cautious not to generalize too far, as Mr. L. seems to us to have done. One of the cases related by Mr. L. illustrates this, for in it (a case of sclerotitis), morphia entirely failed to afford relief, and the patient was subsequently cured by leeches, blisters, and mercurialization.]

—

37. *Conical Cornea and its Treatment by Operation.*—Mr. BOWMAN, in an interesting article in our valuable contemporary, the *Ophthalmic Hospital Reports* (October, 1859), gives an account of the morbid anatomy of this affection, its pathology, &c., with a description of a new method he has adopted for improving vision in such cases. So unsuccessful and hazardous have been the operative proceedings hitherto employed, that they have latterly been seldom resorted to.

"It has long been known," says Mr. Bowman, "that an eye thus affected often sees much better when either a small hole or a narrow slit in an opaque diaphragm is placed immediately before the eye. This is owing to the interception of all but a narrow pencil or plane of rays, which passing either laterally or centrally, form a more or less true image, unconfused by admixture with others less accurately converged, entering through neighbouring and more distorted portions of the corneal surface.

"Such a contrivance has to be applied with a certain amount of skill, and to be moved as the eye itself moves, and it is seldom useful except for very near vision, because the area of the field is so contracted. To be useful, the aperture must be brought very near the cornea, and on the whole, though often far better than nothing, it is ill-adapted to poor and uninstructed persons. The idea on which I proceeded was so to operate on the iris as to give the pupil a slit-like shape, and to fasten it to the cornea in such a position as to conduce to the formation of the most correct image compatible with the altered curve of the cornea in each particular case.

"It seemed likely that if the slit-like aperture could be placed within the eye, immediately behind the cornea, it would be more useful than the artificial perforated diaphragm placed outside. Without confining myself, however, to this idea, I have been endeavouring for the last two years to discover experimentally what modification of the pupil artificially produced was most effectual in improving vision. In no case have I had reason to regret having operated; no case has been made worse; all, with one exception, have been improved and none has caused anxiety by inflammatory threatenings consequent on the operation.

"The first case I shall relate is that of Sarah Collins, æt. 26, who for eight years had been delicate, and for six years had suffered from conical cornea, both being equally prominent and both transparent. With this exception, the eyes were quite natural, she could with an effort read the smallest type for a few

moments if held very close, but had been compelled to abandon her employment on account of the impossibility of seeing the objects around her.

"On April 30, 1858, I operated on each eye in a different manner, but with the same object, viz., that of drawing the pupil outwards to a fixed point at the margin of the cornea, as the first step towards forming it into an horizontal slit. On the left eye I excised a minute marginal portion of the cornea by the help of a broad needle (*corneëctomy*—the operation of Guepin modified) a small portion of iris was immediately protruded and the pupil became transversely balloon-shaped, the margin of the pupil not being involved in the hernia. On the right eye I performed the operation of *tying the iris*, then just devised by my friend Mr. Critchett, to meet the want we had long felt of a sure method of fixing the iris to the point of puncture in cases of artificial pupil. (See *Ophthalmic Hospital Reports*, vol. i. p. 225, October, 1858.) In both eyes the canula forceps was used to seize and draw out the iris to the degree desired, the point seized being about one-third from the pupillary margin, so as to leave that margin still free within the aqueous chamber. The object in each eye was attained, but with so much less irritation from the iriddesis that in all subsequent operations I had recourse to this method, which I regard as one of the most useful improvements made of late years in the operative surgery of the eye, giving as it does precision and certainty, with perfect security under all ordinary circumstances, to the operation for artificial pupil, in the very numerous cases to which it is applicable. The sight being now much improved, but most so in the right, I operated inwards, or at an exactly opposite point, in both eyes on the 21st of May, the immediate result being a transversely oval pupil in each. In the right eye the margin of the pupil was entirely free; in the left, the margin was adherent to the site of the corneal wound. Hardly any irritation ensued. At the end of two days the ligatures had dropped off; the pupils acted promptly, the left being more slit-like than the right. In both eyes vision was immediately much improved and a gradual further amendment has since gone on, apparently owing to a certain receding of the corneal bulge.

"This girl has become able to resume her occupation of a housemaid, and is able even without concave glasses to see the objects in a room with tolerable accuracy; with a glass she can see distant objects still better.

"I have operated since on six other patients, on five of them in both eyes. I have operated so as to make the pupil vertical rather than horizontal in all these cases, and in several have experimentally modified the operation in regard to the point of the iris seized by the canula forceps, and so as to test the value of that instrument, compared with the short blunt hook for seizing the pupillary edge. This last I now prefer, as being simpler and less apt to injure the iris, while it affords greater precision in fixing the pupillary edge to the wound. I find, too, no disadvantage in engaging the pupillary edge in the wound, the pupil acting as well afterwards as when the natural pupil is still entirely within the chamber. I have tried to perform iriddesis in the opposite directions on the same eye on the same occasion, but found that the point first tied was apt to be drawn unduly into the chamber while the opposite point was being drawn out, so that I think it better to do the second iriddesis on the same eye a week after the first.

"In one of the earlier operations with the canula forceps there was a little bleeding from the stretched iris into the chamber, sufficient to disguise the later steps of the operation, but with the short hook this has never occurred. These operations from their extreme delicacy should be done under chloroform, the influence of which should be sufficiently complete to place the organ in complete repose; one minute is sufficient for each eye when dexterously managed. If sickness ensue it does no harm to the eye. No iritis suffusing the pupil has followed in any case, but of course the usual care has been taken to keep the eye cool and quiet for a few days after the operation. If the thread remains on after three or four days, it may be pulled away with forceps. It is of great importance to the perfection of the operation that the puncturing instrument and the blunt hook should be of equal size, so that a sufficient opening, but not more than sufficient, is made for the free passage of the hook; otherwise, either the hook does not enter easily, or, on the other hand, the knot is prone to slip

back into the puncture, or even into the aqueous chamber. The recurved part of the hook should be long enough to hold the pupillary margin, but so short as to admit of the ligature being tightened the moment this margin is outside the puncture. I always leave one end of the silk nearly an eighth of an inch long, so that it may be readily laid hold of afterwards, should it chance to have fallen at all inwards, or be concealed by a coating of lymph. These may seem trifling points, but in my opinion have their importance, and are not unworthy the attention of any one performing this operation for the first time—they pertain to the excessive delicacy of the structures, and of the whole proceeding.

"It has been a matter of great interest with me to ascertain, as far as the limited number of cases presenting themselves enabled me, how far the second iriddesis was useful—in other words, whether an elliptical or slit-like pupil gave better sight than one of a balloon-shape; and again, whether the vertical direction was better than the horizontal, or the reverse; also whether other modifications in the direction of the altered pupil were desirable.

"Of course, this is a subject which must be worked out in detail by surgeons, and the following remarks are but hints for future experimental inquiries.

"The slit-like figure of the pupil suggested itself to me as the most feasible method of much limiting the size of the pupil while changing its situation. If the thing be well considered, it will be found difficult to conceive any plan of rendering the pupil *very small* by operation; it is much more easy to *enlarge* it. While the pupillary margin is free any displacement of the iris is most likely to enlarge the pupil, for I despaired of being able to seize the iris at one side of the pupil and draw and fix it over towards the other side. Any excision of the iris must, of course, enlarge the pupil, and so must any marginal iriddesis; but by a double iriddesis in opposite directions the central region becomes slit-like. By making this slit *horizontal* the light is admitted from each side, as well as through the centre, and the range of the field would probably be expanded, while the precision of the image would be impaired by the inequality of refraction through the central and marginal regions respectively. The appearance of the horizontal pupil was besides not agreeable. The *vertical* position of the slit offered the prospect of its virtual reduction in size, by the overlapping of its angles by the lids in ordinary vision; and I hoped that the patient would learn to use the lids for this purpose, so as to clarify the image. I cannot say that this expectation has been borne out in any marked degree, but nevertheless the vertical slit is much more sightly than the horizontal, and certainly equally good for vision, so that at present I prefer it.

"The improvement of vision from a first iriddesis downwards has been in almost every case decided, the patients being delighted with the result. In some the second iriddesis upwards has not seemed further to increase the precision of view, in others it has certainly done so, and in the present state of the inquiry I am disposed to continue to practise it in cases of considerable conicity. The improvement, however, consequent on the second operation, is never so marked as that which follows the first, and it can only operate by narrowing that part of the pupil which lies behind the bulge. Its more or less influence in different cases may perhaps depend on varieties in the curvature of the apex of the cone.

"The *influence of these operations in lessening the corneal bulge* has been very remarkable. It is not easy to give in any case the exact amount of this result, but that the bulge diminishes speedily, and continues to do so for a considerable time subsequent to the operation, admits of no doubt, and I attribute it to the moderation of the ocular tension. Further experience will show whether I am right, but at present I am for operating quite early in slight cases in a downward direction only, if only to arrest the progress of the conicity; and certainly to obtain this result in almost any degree will make it worth while to perform so safe an operation in a disease otherwise so intractable, and, in its advance, so destructive of all useful sight."

In addition to the six cases operated on by Mr. B., four others have been operated on by his colleagues, Messrs. Critchett and Poland, with satisfactory results as to the influence of this method. Two of these, however, were complicated with extraction of the lens. Mr. Lawson has also had a satisfactory case.

38. *Voluntary Power of using Horner's Muscle* (*Tensor Tarsi*).—Dr. Jago, of Plymouth, in a letter to Dr. Streatfeild, writes:—

"In compliance with your wish, I send you some remarks on the power I have over the *tensor tarsi* muscle which you remember having observed in me many years ago.

"I cannot find that the action or the uses of this muscle have been *demonstrated* by any author within my reach, nor have I ever known any one, besides myself, who has *voluntary* control over it.

"In me the *caruncul*æ and the *plic*æ *semilunares* are of normal size, and well defined. The *rim*æ *palpebrarum* are rather large. From my earliest years I have been able to move the eyelids in an unusual manner, and quite different from the ordinary way by the orbicularis.

"Ellis says, 'the *tensor tarsi* muscle, small and oftentimes very indistinct, is situated behind the tendon of the *orbicularis*. It arises from the vertical crest which divides the orbital surface of the *os unguis* into two portions that run outwards along the lachrymal canals, and are inserted, one for each eyelid, into the cartilaginous processes in which the *puncta lachrymalia* are situated, and also into the tarsal cartilage of the same lid. The muscle lies behind the tendon of the *orbicularis*, and against the lachrymal *sac*.'

"It is stated by Cruveilhier that 'this small muscle arises from the vertical ridge of the *os unguis* which forms the posterior border of the lachrymal groove; from this point it passes transversely outwards along the posterior tendon of the *orbicularis palpebrarum*, and divides into two tongues, a superior and an inferior, which correspond to the lachrymal canals, and terminate at the respective lachrymal *puncta*.' He regards these fibres as a 'dependence' of the *orbicularis palpebrarum*.

"In me the voluntary contraction of this muscle takes place instantly when willed, and with considerable force, which is *more in the under than in the upper lid*. The contraction can be sustained for some time, easily for half a minute, after which time the *tensor* begins to be tired. This can be done in either eye alternately and singly, or in both together.

"When the *tensor* contracts, the inner angle of the inferior tarsal cartilage is drawn inwards towards the nose, and *upwards* as far as the *upper border* of the *caruncula*, so as to cover it: at the same time also the corresponding angle of the upper tarsal cartilage is pulled inwards and *downwards*, as far as the upper border of the *caruncula;* where both inner angles of the tarsal cartilages meet: and together are still more drawn *inwards* towards the vertical ridge of the *os unguis*. The inner commissure becomes a mere groove of a semilunar form, its concavity looking downwards and outwards. The skin at the inner angle of the eye becomes puckered, the *caruncula* and *plica semilunaris* cannot be seen, being covered and pressed more deeply into the orbit by the inner angle of the *lower* tarsal cartilage.

"During the action of the *tensor*, the eyeball remains passive or not, as I will it; and there is *no movement* of the *orbicularis*, nor any corrugation of the eyebrow.

"In all degrees of contraction of the *tensor tarsi* the *puncta lachrymalia* continually keep their usual direction towards the eyeball, and neither they nor the eyelids are everted or inverted.

"When the eyes are shut the *tensor* simply draws both eyelids transversely nearer to the nose, and the inner tarsal angles are pulled more into the orbit towards the vertical ridge of the *os unguis*.

"When the *tensor* is not in action, the lids bear with the usual force against the front of the eyeball.

"The outer commissure of the eye keeps its position, and is not affected by the action of the *tensor tarsi*.

"What is the use of this little muscle? Does it, by intermittent contraction on the lachrymal canals, assist in *pumping* away the tears? When it is considered that the *puncta* are of less diameter than the canals, that the muscle is inserted close to each *punctum*, and following the direction of each, is attached to the vertical ridge of the *os unguis*, that each lachrymal canal has a separate orifice *in the sac*, that the muscular power of the *inferior* division of the *tensor*

tarsi, to which the most tears must flow, is, in me, at least four times more than that of the upper, that just below the opening of the inferior lachrymal canal into the sac, sometimes a circular, and often a semicircular *valve* is found; I think that all this mechanism points to a very important, though not perhaps the sole, use of Horner's muscle, and that it is not by capillary attraction alone the tears find their way through the lachrymal canals.

"The name, *tensor tarsi*, does very aptly indicate an important use; and it is not at all improbable, although few may have voluntary power over this muscle, that in every person it always acts as a *regulator*, with the orbicularis, in keeping up that amount of tension necessary for a perfect and protecting apposition of the lids to the eyeball under every situation of the eye.

"I have quoted Cruveilhier's observation that the muscle is a 'dependence' of the orbicularis; this may appear so on dissection, but in my own case it seems to be ascertained that the *tensor tarsi* is as much an independent muscle as any other."[1]—*Ophthalmic Hospital Reports*, October, 1859.

MIDWIFERY.

39. *Difficulty of Delivery in Rupture of the Uterus.*—Dr. J. H. AVELING calls attention to cases of rupture of the body or fundus of the uterus, in which one or both of the child's legs have escaped into the abdominal cavity.

"Dr. Dewees," he remarks, "in the treatment of these cases, where the child is only partially protruded into the abdominal cavity, says that 'pains may effect the delivery of the child, or it may be readily extracted by art.' But how different is the pleasant reading of a fluently-written work on Midwifery, to the painful practice of it with a suffering patient before you, and alarmed faces around! That the child may be readily extracted when the rent extends to the vagina, I do not deny; but, if the rupture be situated in the fundus or body of the uterus, great difficulty may be expected frequently to be met with.

"In support of this statement, I shall quote two cases, the first of which Mr. James Baron, of Gosforth, has the credit of having given to the profession in the *Medical Times and Gazette*, December 3, 1853.

"*Case* 1.—The woman, aged 38, was in her twelfth labour, which proving to be lingering, two doses of ergot were given. About an hour and a half after, the head was found bearing well down towards the perineum, when the patient became violently excited, and cried out that 'the pain was dreadful, of an intense burning character, which never left her, and which she could not live under.' After an ineffectual attempt to restrain her, she got out of bed, but scarcely had she done so when she was observed to become deathly pale, and she said, quite calmly, 'I feel very waffish.' Rupture of the uterus was at once suspected, and after some delay, caused by having to send for his instruments, Mr. Baron proceeded to deliver. After a little difficulty in locking his forceps, Mr. Baron began to extract. But I will here use his own words: 'Immediately on doing so (extracting), she commenced to complain of the "burning" pain, and, as I proceeded, she became excited in the same violent way as before; but having more help, we restrained her. In about half an hour, after much labour, I succeeded in delivering the head, but, as I did so, she expired. The shoulders defied all my efforts to extricate them, and I was obliged to be content, and allow the child to remain. It showed no symptoms of life.'

"At the post-mortem examination, immediately on cutting into the abdomen, the breech and legs of the child, together with the placenta, were found lying in the peritoneal cavity. The contracted uterus was found low down in the left iliac region, hid from sight by the intestines. The rent was extensive, and situated in the anterior wall; but whether it was continued through the os

[1] This gentleman has similar voluntary power over the *attollens* and *attrahens aurem*.—ED.

tincæ could not be ascertained, as the child occupied the entire pelvis, and could not be moved.

"*Case* 2.—I received a note in the middle of the night from a practitioner in the country, saying that he had met with a difficulty, and would be glad if I would come directly. On arriving, I found two medical men in the house, and the patient, a fine, dark, handsome woman, of about 30 years of age, in a very weak state, with an anxious, dusky countenance, and suffering from violent and rapid pains. The arm had presented, and my medical friend had succeeded in bringing down the left foot, with the intention of turning. No amount of traction, however, on this foot produced any other effect than that of causing the patient intense agony and violent contractions of the uterus. Hoping to relax the uterus, I put the patient under chloroform, but with no effect, for the uterus continued as firmly contracted as ever, and the fœtus remained as immovable. A dose of opium was given, hoping that the spasmodic character of the pains would abate, but the patient sank rapidly, and died undelivered.

"On examining the body the next day, the whole of the right lower extremity of the child was found protruding through a rent in the uterus into the abdominal cavity. The rupture had taken place in the anterior and upper part of the body of the uterus, and was not large enough to allow the child to be drawn through it without being enlarged by the knife. Very little hemorrhage had taken place. The child was a fine healthy male.

"The great question which arises after reading these two cases must be with every one, What was the *cause* of the difficulty in delivering? And the answer to this question, as far as my reading goes, is not to be found in any work on midwifery. If the reader will recall to his mind the position of the fœtus in the uterus, and more especially the manner in which its thighs are firmly flexed upon the abdomen, he will have no difficulty in understanding how one or both of these flexed thighs may, when protruded through the walls of the uterus, become hooked over the edge of the ruptured opening, and thus defy any effort to extract the child short of that which would be sufficient to bring the uterus with it.

"In Mr. Baron's case, the same 'burning' pain and violent excitement was produced when he began to extract with the forceps, as had occurred at the time of the rupture. These were doubtless caused by the strain upon the edges of the rent caused by the body of the child, and the two thighs hooked over, being pulled downwards. At the post-mortem the uterus was found low down in the iliac region. This is exactly the position, supposing the child to have presented naturally, in which one would have expected to have found it; for the legs of the child would naturally incline to the right, and being protruded from the uterus, would occupy the right side of the abdominal space. Mr. Baron attributed the difficulty of delivery to the shoulders of the child; but, at all events, in Case 2, such could not have been the cause.

"*Treatment.*—Baudelocque, in the treatment of these cases, says: 'When the head presents after the rupture of the uterus, even if it should not be engaged in the pelvis, provided the deformity of the latter does not offer any great obstacles to it, we ought to terminate the delivery with the forceps—whatever part may have penetrated into the abdomen. We ought not to extract the child by the feet, but when they are found in the neighbourhood of the orifice of the uterus; or when the child is still entirely in that viscus.'

"Dr. Collins says: 'When the head presents and does not recede, it is rarely that lessening it and delivering with the crotchet will not be found the most eligible mode of proceeding. Efforts have been frequently made to deliver with the forceps in such cases, but this instrument is seldom applicable, as the introduction of the blades generally forces the head out of our reach; besides, but little would be thus gained, for the child dies shortly after the rupture takes place.'

"Dr. Burns, in the treatment of these cases, says: 'Delivery by turning the child, has advantages over the other modes, and certainly ought, with scarcely any exception, to be resorted to. When the uterus is spasmodically and violently contracted between the rent and the os uteri, which I know is apt to

happen if the fundus be lacerated, I consider attempts to deliver as adding to the danger.' In Case 2, therefore, he would have done nothing.

"Madame Boivin says: 'Si la tête est engagée dans l'excavation, il faut l'extraire avec le forceps. Si la tête n'était point susceptible d'éte saiser avec l'instrument, il faudrait faire l'extraction de l'enfant par les pieds; si ces extrémités étaient passées par la crevasse de l'utérus, il faudrait y faire pénétrer la main pour les ramener dans la cavité utérine et les extraire par l'orifice naturel.'

"So almost universally fatal are these cases that many authors have advised that they should be left to nature, some patients having recovered when so treated. They have been, perhaps, led to this conclusion, partly from the humane feeling that the few remaining minutes of the patient's life ought not to be embittered by the agony which any attempt at delivery would be sure to produce. But these feelings must be allowed to have no weight with us when we know that any little chance a woman may have is greatly decreased by her remaining undelivered. Out of thirty-four cases reported by Dr. Collins, *two* recovered. Who can tell, when he has the misfortune to meet with a case of ruptured uterus, that the patient under his care may not be one of the few who, if properly delivered, may again be restored to health? It is our duty, therefore, to consider no case as hopeless, and to continue to exercise, while life remains, our utmost skill. The question left then is:—

"*What is the best treatment in these cases?*

"(*a*) All modern writers are pretty generally agreed that in cases of rupture of the uterus the child speedily dies. Unless, therefore, delivery be rapidly completed, the child must necessarily be sacrificed. The knowledge of this is of great importance, for we might sometimes be induced to adopt modes of delivery both more painful to the mother and more difficult to the attendant, if we thought there was any likelihood of saving the child.

"(*b*) If rupture of the uterus takes place during the presence of the medical attendant, and be at once recognized, turning, if practicable, should at once be accomplished—unless

"(*c*) The head be so nearly born that the forceps can be readily applied, and the labour to all appearances be easily terminated. In this case the forceps should certainly be used, for as the laceration usually takes place at the junction of the uterus with the vagina, the obstacle to delivery, which it has been the object of this paper to demonstrate, would in a large proportion of cases not exist. The patient should have the benefit of our knowledge on this point, for if we attempted to push back the head for the purpose of turning, we might either increase the extent of the laceration, or cause the child to be protruded still further into the abdominal cavity.

"(*d*) If at the time of the rupture the head of the child is firmly fixed in the pelvis, and does not recede before the hand, turning in such a case would be madness. The child must be considered doomed, and the treatment recommended by Dr. Collins would be the best to adopt. The head should be lessened and the child brought away by the crotchet.

"(*e*) But if, after lessening the head, delivery be still impracticable, the thighs of the child will then be found most likely to be hooked over the edge of the rupture, and in this case the treatment of Madame Boivin would be best. The hand must be introduced into the uterus, and the extremity or extremities of the child must be withdrawn from the abdominal cavity into the uterus, and the child extracted by the feet. Case 2 shows how necessary it is to secure both feet.

"(*f*) If, at the time of the rupture, the head recedes so as to make it difficult to operate upon it, it will be better to turn at once, and to secure both extremities as above.

"(*g*) If the arm presents, as in Case 2, it will be best to lessen the thorax and to bring down the hips. If it be found from the difficulty in extracting, or from external examination, that the thighs were hooked through the uterus, the operation will still have been of service, for the hand will be more easily passed for the purpose of securing the extremities and turning as above.

"(*h*) Whatever mode of treatment is adopted, it will be found worse than useless to drag away at the child while one or more of its thighs are hooked over the edge of any laceration of the uterus not extending into the vagina."—*Med. Times and Gaz.*, Nov. 19, 1859.

40. *On the Pathology and Treatment of Placenta Prævia.* By Dr. A. S. Donkin, of Newcastle-upon-Tyne.—Dr. Donkin's object in this paper is to show that in those cases in which the placenta is detached, and the hemorrhage arrested by nature's spontaneous effort, *the separation of the placenta and the arrest of the flooding do not stand in the relation of cause and effect, but as the concomitant result of cervical expansion; both progressing* pari passu. *Nature then does not separate the placenta completely from the cervix, until the very period arrives when she has completed the mechanical closure of the mouths of the utero-placental vessels, which have been opened in the process.* The *forcible detachment* of the placenta by the finger, *to any extent*, is therefore *incorrect in principle*, inasmuch as it merely tears off the placenta, without making any provision for arresting the hemorrhage, which flows from the vascular orifices opened on the cervix by the operation.

The practical objections to which artificial detachment of the placenta is liable, as proved by experience, are the following: *First*, the gross mortality in those cases in which it has been employed is equivalent to one in four-sixteenths; while the gross mortality in cases of spontaneous expulsion of the placenta is only one in fourteen and a half. *Secondly*, that although introduced into practice for the ostensible purpose of preventing the necessity of turning in a certain class of cases, we find that exactly *one half* of the cases treated by this method subsequently required the operation of turning in addition.[1] Notwithstanding these objections, the fact must not be ignored, that in a considerable number of cases a cessation of the hemorrhage has followed this practice—a result which appears in many instances to have saved the life of the mother. But as the operation is attended and immediately followed by a profuse flow of blood, this, by suddenly and powerfully depressing the heart's action, will permit the process of coagulation to take place in the bleeding mouths of the vessels. In this manner we may account for the subsequent arrest of the flooding; for we know that a sudden and copious gush of blood, by its salutary influence in producing early and temporary prostration and collapse, and thereby enabling coagula to form, is considerably less dangerous to life than a small and continuous stream of blood, which seldom acts on the circulation until it does so with a force which is at once irretrievably fatal. Thus, in thirty-one of the recorded cases, or about one-half of the entire number treated by this method, it is expressly stated that the detachment of the placenta was resorted to under the condition of extreme exhaustion.[2] Now in these cases the already existing prostration of the circulation was unquestionably such as would enable coagulation to plug up the open mouths of the utero-placental vessels, and thereby prevent further bleeding. In other cases, again, it would seem that the operation was performed at the period when nature would have detached the organ; so that in these cases the arrest of the flooding can be accounted for by the change which the cervix had already undergone.

So far, then, as our statistical knowledge will enable us to judge of the value of this method of treating *placenta prævia*, it would appear not to have been attended with the success which was anticipated on its first introduction into practice; consequently, we are justified in attempting to devise some other means of arresting the flooding in the early stage of labour, in those cases whose characters rank them in the second class already defined. If we desire any method of treatment to be successful in these hazardous cases, we ought to endeavour to base it on a correct appreciation of the process which nature brings into operation to arrest the hemorrhage. If, therefore, it is correct that the process in question is *expansion of the cervix*, we ought to assist her in effecting it, when her own powers are inadequate for the purpose.

[1] In Dr. Trask's Statistical Table III., we find that, up to the period of its publication, in 1855, the total number of cases on record in which the placenta was forcibly detached by the finger amounted to 66; of these, 47 recovered and 13 died; while 33, or exactly half the number, required the operation of turning in addition.

[2] Of these cases, 23 recovered and 8 died, giving a mortality of more than 1 in 3, or exactly 1 in $2\frac{7}{8}$.

It is from these considerations that, in the cases alluded to, in which something must always be done not only to check the flooding but to advance the labour, that *mechanical expansion of the cervix, by means of a sponge-tent specially constructed for the purpose*, is recommended as a method of treatment. From the operation of this procedure, the following results may reasonably be expected:—

1. It would gradually throw off the placenta, and by putting the fibrous structure of the cervix on the stretch, it would compress the utero-placental vessels. In other words, it would, by its action on the cervix, detach the placenta and arrest the hemorrhage *pari passu*.

2. It would act both as a plug and as a powerful compress applied to the opened mouths of the utero-placental vessels.

3. It would excite uterine action.

In order to produce these important effects, the *sponge-tent* employed would require to be rounded at its upper extremity to prevent its introduction injuring the placenta; it would require to be of large size, and so constructed as to expand rapidly under the influence of tepid injections.

To this method of treatment might be added the administration of ergot, or the application of galvanism, as recommended by Dr. Mackenzie, of London, according to the peculiarities of each individual case.—*Edinburgh Med. Journ.*, April, 1859.

—

41. *On the Harmlessness and Spontaneous Cure of Certain Uterine Polypi.* By M. VELPEAU.—On the 14th of last November, a woman of good constitution, forty years of age, came under the care of M. Velpeau on account of menorrhagia, moderately severe, and alternating with leucorrhœa. A practitioner previously consulted by the patient had recognized the existence of a thin uterine polypus, about an inch long and three or four lines thick, and presenting the appearance of the clapper of a bell. M. Velpeau, supposing that this polypus had nothing to do with the discharges complained of by the patient, at first limited himself to prescribing astringent injections containing alum. Under this treatment the leucorrhœa sensibly diminished, and perhaps the same would have been the case with the menorrhagia; but as the patient was anxious to be relieved of the tumour, M. Velpeau proceeded to its extraction, which was effected in the simplest manner. The left index finger having been carried up to the neck of the uterus below the polypus, ordinary forceps were guided along the finger, seized the morbid growth, and withdrew it after two or three efforts of torsion. This little operation was performed on the 2d of December. On the 10th, M. Velpeau examined the cervix by means of the speculum, proposing to destroy the remainder of the pedicle with the acid nitrate of mercury; but neither examination by the eye nor by the finger could recognize the least trace of it. Cauterization was therefore judged unnecessary, and the patient was discharged with directions to continue the use of astringent injections.

In reference to the consecutive cauterization, M. Velpeau has remarked that this operation is not always necessary in the treatment of uterine polypi. It is indispensable when we have to do with vegetations of the mucous tissue; but when the polypus is implanted above the transverse diameter of the uterus, we may limit ourselves to cutting the tumour at the point of junction with the pedicle, or to enucleating it by a simple incision, without minding what shall become of the pedicle. For these latter polypi are veritable foreign bodies developed in the thickness of the uterine tissue, in which they have formed a sac; and this sac once emptied, the walls retract, without the patient being exposed to any danger from a relapse.

M. Velpeau took the opportunity of making some remarks upon the harmlessness and spontaneous cure of certain fibrous polypi of the uterus. The accidents produced by uterine polypi are not, said the Professor, in relation with their volume. Some polypi of considerable size produce only a trifling discharge; nothing, however, is more common in private practice than false impressions on this point. Thus there is no opinion more common in society, and even among the medical profession, than that which regards a polypus of the uterus as a very serious affection, and imperatively requiring surgical interference. Never-

theless, there are many polypi which do not at all affect the general health, and which even disappear spontaneously. Sometimes the pedicle gradually becomes thinner, and breaks in consequence of some displacement of the uterus, and the polypus drops off like a ripe fruit; at other times softening and gangrenous destruction of the morbid growth take place. Accordingly, if you are called in, and finding a polypus of the size of a chestnut, you recommend its removal, at the same time describing and exaggerating the evils it might occasion, in general your advice will be followed, and all will go on well. But, on the contrary, it may happen that your advice is not followed; and then, as the polypus may give rise to no bad effects, you will be looked upon as an ignoramus, or it will be supposed that you were influenced by interested motives. As these cases are not rare, it may be well to call to them the attention of practitioners:—

Six years ago, M. Velpeau was consulted by a lady on account of ill-defined sensations in the lower part of the belly. He examined her, and found a pyriform polypus of the size of a walnut. He recommended the patient to submit to an operation, and pointed out to her the danger which the presence of the polypus might occasion. She consented, and the day for the operation was fixed; but when M. Velpeau arrived, he learned that his patient had yielded to a sudden impulse of terror, and that she was gone. But this lady returned a year afterwards, and the polypus in the interval had occasioned no unpleasant effects. Nevertheless, M. Velpeau still insisted upon the necessity of an operation, but without success. Three years elapsed, and at the end of that time the polypus had undergone a notable diminution. Now it is reduced to a small tubercle, and for the last six years has been perfectly inoffensive.

M. Velpeau also quoted the case of a lady in Paris, in whom fifteen years ago he had recognized the presence of a uterine polypus, which appeared to occasion abundant hemorrhage at the menstrual periods. The patient was at first disposed to be operated upon, but subsequently drew back; and at the end of three or four years there was neither hemorrhage nor polypus. Indeed, M. Velpeau is not quite certain that these polypi are always the cause of the red or white discharges, which are supposed to depend upon them; and it is on this account that, in the case of the woman who had been the occasion for these remarks, M. Velpeau had only been led to operate by her own strongly expressed wish.—*Edin. Med. Journ.*, February, 1860, from *Journal de Médecine et de Chirurgie Pratiques.*

MEDICAL JURISPRUDENCE AND TOXICOLOGY.

42. *Cases of Sudden Delivery.*—M. Ameuille related an interesting case to the Paris Société Medico-Pratique, in illustration of the following question: May a primipara of robust frame become delivered of a full-timed, well-formed infant, and this infant fall into a privy, the mother resorting there simply to satisfy a want? In the present case, a lady, aged twenty, in robust health, having become with child by a young man, left her home in the country, and repaired to a Paris lodging-house; and awaiting admission into the maternity, she had made no preparations for the reception of the child. She was taken ill in the night, and had several motions; and at last, while proceeding towards the vessel, to pass, as she believed, another, the child dropped from her on the carpet. Her intention was, had not a more sudden pain seized her, to have repaired to the privy, into which the child must certainly have dropped. It is obvious, with the mystery of the case and the want of preparation for the child, how easily a charge of infanticide might, in the event of the child's having fallen into the privy, have been brought in such a case. M. Simonot had no doubt that a woman might be delivered of her first child without being aware of it. He knew the case of a lady who, at four o'clock, was walking about her room and laughing, there being no dilatation of the os or other sign of delivery, and who yet, in twenty minutes later, gave birth to a child and the placenta without pain or exclamation. M. Perrin had recently been called to a woman pregnant of her third child, who, taken first with a violent desire to pass water, and then to evacuate the bowels, passed a child into the utensil. Had the night not been so cold, she would have gone to the privy. There are many such facts on record;

but they may be usefully borne in mind when girls are charged with improperly disposing of the fruits of illicit intercourse, and even when accompanying circumstances are suspicious.—*Med. Times and Gaz.*, Jan. 28th, from *L'Union Méd.*, No. 8.

43. *Poisoning by Arsenic.*—Dr. BLONDLOT has communicated, in a paper to the Paris Academy of Sciences, a fact which may be highly valuable in cases of poisoning by arsenic. After numerous experiments, he has come to the conclusion that the slightest quantity of greasy matter in contact with arsenious acid will reduce its solubility to about one-twentieth of what it was before. This explains at once why, in certain judicial investigations, arsenic has been sought for in vain in the liquid portion of the food contained in the stomach, when the food partly consisted of fatty substances, such as broth, milk, etc. It likewise explains how arsenious acid, taken in powder, may sometimes have sojourned a long time in the stomach before it produced any deleterious effect, since in such cases its action was hindered by the presence of fatty substances. Jugglers have been seen swallowing arsenic with impunity, because, according to Dr. Blondlot, they had previously taken the precaution to drink milk and eat fat bacon. Hence it follows that in cases of poisoning by arsenic fatty substances may be administered as real antidotes, capable of suspending the action of the poison for a considerable time, until more radical means of effecting a cure can be applied.—*Med. Times and Gaz.*, Feb. 11, 1860.

MISCELLANEOUS.

44 *University of London. New regulations creating two degrees: one of Bachelor and the other of Doctor of Science.*—We comply with pleasure with the request of the Registrar of the University of London, and give place to the following communication, to which we would invite especial attention:—

UNIVERSITY OF LONDON,
Burlington House, London, December 27, 1859.

SIR: The Senate of this University having recently instituted, in accordance with representations made to it by many of the most eminent men of science in this country, the degrees of *Bachelor* and *Doctor* of Science, I beg to forward you a copy of the regulations relating to these degrees; and shall be glad if you can draw the attention of the public through your columns, not only to the fact that such degrees may now be obtained, but also to the general conditions on which they will be granted. It is provided by these regulations that the acquirements of the candidate shall in the first place be tested by the matriculation examination, which candidates for the other degrees conferred by the University are required to pass before entering upon their special courses of study; that the degree of *Bachelor* of Science shall take rank with that of Bachelor of Arts, being conferred (like it) after two consecutive examinations at an interval of a year from each other and from the matriculation examination, and attesting the general knowledge acquired by the graduate of the fundamental principles and most important facts of the chief divisions of science; and that the degree of *Doctor* of Science shall be conferred only upon such candidates as have not merely given evidence of general scientific attainment, but have shown themselves to possess a very high proficiency, both theoretical and practical, in some one branch of scientific knowledge.

In following the course of study required as a preparation for these degrees, candidates are left to their own free choice, both as to locality and as to instructors; and it might be well if you would take the opportunity of informing the public, that by the new charter recently granted to the University, candidates for its degrees in *Arts* now enjoy the same liberty (as you will see by the regulations, of which I inclose a copy), so that these degrees also are now open to every one who can stand the test of the successive examinations to which candidates for them are subjected.

I have the honour to be, sir, your obedient servant,
WILLIAM B. CARPENTER, M. D., F. R. S., *Registrar.*

AMERICAN INTELLIGENCE.

ORIGINAL COMMUNICATIONS.

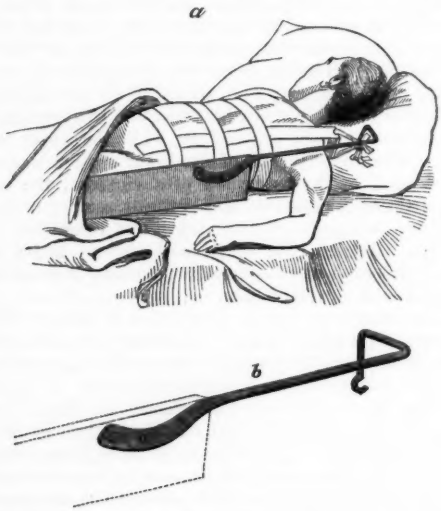
Singular Anomaly of Conformation in a Lung. By JOHN H. PACKARD, M. D., of Philadelphia.—A few days since, in making a post-mortem examination of the body of a gentleman about 35 years of age, I found the left lung to consist of two distinct portions; the usual fissure between the upper and lower lobes extending completely through to the root of the organ. One division of the left bronchus, one branch of the left pulmonary artery, and one pulmonary vein, passed down to the lower segment. A marked difference in colour existed between the two portions; the lower was very pale, and of an ashy gray colour, while the upper was deep red, and congested. The upper surface of the lower portion was quite uneven, being puckered as if by the formation of a cicatrix; the corresponding lower surface of the upper segment was perfectly regular in its concavity.

The pulmonary substance, on both sides, was completely studded with miliary tubercles. Between the costal and visceral layers of the right pleura, universal adhesion had taken place; nothing unusual was observed in the conformation of the right lung.

So far as I am aware, no actual observation of this anomaly has ever been recorded, although allusions to its possibility are made by Otto (*Compendium of Human and Comparative Pathological Anatomy*, translated by South), and by Lebert (*Anatomie Pathologique*). I believe that this is, in fact, the first anomaly of any importance, affecting a lung, that has come under my notice, in a somewhat extended range of dissections and post-mortem examinations. (Dr. Ellerslie Wallace, Demonstrator of Anatomy in the Jefferson College, informs me that he has twice met with similar cases; in one, the two portions were attached to one another by very slight pleuritic adhesions; in the other, they were entirely unconnected.)

Counter-extension in Fractures of the Femur. By H. LENOX HODGE, M. D., Resident Physician in the Pennsylvania Hospital (with two woodcuts).—It is of course well known that excellent results may be obtained, by care and attention, in cases of fracture of the thigh, where adhesive plaster has been the means used for extension, and a perineal band for counter-extension. But, notwithstanding constant bathings and rubbings, the patients always regard the groin as a tender spot; sometimes excoriations there cannot be prevented, and oftentimes the apparatus must be loosened to relieve the suffering produced. On these accounts many substitutes for the perineal band have been proposed. Among the most recent is Dr. Gilbert's bands of adhesive plaster in the groin. The advantages of this plan are great. The relief afforded to patients in the hospital, whenever this was substituted for the usual perineal band, was marked. Yet it has been found that whether the bands were made as wide as originally recommended or much narrower, or whether two "were fused together," still they would wrinkle in the groin, and thus irritate the part. As the splint rises higher

from increased extension, the bands, meeting it at an angle, are pushed further up on the abdomen, and thus are gradually loosened. As soon as the urine touches them, which so often happens in elderly persons and children, their attachment to the part ceases, and they must be renewed. After testing various modifications, the substitute, as represented in the adjoining figure, would seem to compare favourably with its counterpart on the leg for extension. A bar of wrought iron or steel, of the shape exhibited in *b*, is fastened to the outer and upper part of Physick's long splint by means of bolts with movable nuts. This bar must be bent, to the right or left, in accordance with the side to which it is to be applied. The splint should be wide enough to allow the bar to pass clear of the patient's arm and shoulder. A long strip of adhesive plaster, about two and a half inches



wide, is applied from the pelvis in front up and over the shoulder, leaving a small loop at the latter part, in which is placed a small block; the strip of plaster is then continued down the back and on to the buttock. Three bands of plaster are then passed completely round the body. A tape is placed over the block of wood, attached in the loop of the plaster, and tied to the hook seen in *b*. The block of wood is intended, like that we use in the extending band, to keep the strips apart so as to draw upon the body in parallel lines, and without wrinkling. This apparatus has been tried in three cases. In these it was found that continued and powerful extension could be made without causing pain, that the patient was prevented from sitting up and thus moving the ends of the broken bone, and that extension and counter-extension were made fairly in the same line. The supposed objections to the plan are that the respiration would be impeded, and that the plaster would soon loosen on the ever-moving thorax and abdomen. As regards the former, much greater constriction of the chest has always been employed in the treatment of fractures of the ribs, even when the patient was up and moving about, without causing any inconvenience.

Under the support of the circular bands the plaster is not so apt to loosen, but will retain its hold perfectly for at least two or three weeks. The materials for this method of counter-extension are obtainable anywhere, and may be readily applied to any of the various modes of treating a fracture of the femur in the extended position.

—

Foreign Body in the Nose; Novel Plan of Removal. By W. S. KING, M. D., Surgeon U. S. A.—This case, as related to me, was as follows: Some time during the past summer, a cherry-stone became lodged in the nares of a small child. All attempts at removal having failed on the part of the parents, the child was brought to Albuquerque, and placed in the charge of a physician. The efforts made to dislodge the stone by this gentleman, not meeting with success, the patient was taken to the village barber, who, in addition to his tonsorial functions, practised the healing art. The barber promised immediate success. He administered a powerful emetic, and watching its operation, at the moment when vomiting was about to commence, clapped a handkerchief tightly over the mouth of the child. Either from the violent expulsion of the contents of the stomach against the posterior nares, exit being denied by the mouth, or, the impulse given by the expired air through the same channel, the cherry-stone dropped on the floor.

—

Ovarian Dropsy—Ovariotomy. By Dr. B. ROEMER, Otter Bridge, Va.—October 25th, 1858. Visited Mrs. L., age 38 years; has been married eight years, and given birth to six children, the youngest three years old. Two or three months after her last accouchement, June, 1855, she felt slight uneasiness in the right iliac fossa, and subsequently an enlargement. On examination, found the abdomen of the size of a full nine months' gestation, hard to the touch, and, on pressure, producing a peculiar sound, similar to that of walking upon well crystallized snow. A large tumour occupied the whole pelvic cavity, pressing against the diaphragm, where the known line of demarcation was well developed. Complained of dyspnœa. A solid enlargement was discovered to adhere, and consequently move with the mass; slight adhesions only diagnosticated; catamenia regular. There existed a periodic monthly exacerbation, the mass enlarging, and afterwards resuming a comparatively smaller compass;[1] uterus somewhat depressed, os *in situ;* bowels and bladder acting; fluctuation indistinct; hence a multilocular ovarian cyst was presumed. I advised preparations of iodine, especially the hydr. protoiod., bandaging, etc., and directed her attention to an operation as the only reliable course for radical cure.

Received on December 5th, 1858, a letter, informing me of the non-success of the treatment adopted, and of the increasing symptoms towards a fatal issue. Was requested to appoint a day for the operation.

Was met on December 9th by Drs. Withers, of Leesville, Ward, and Dillard. The catamenia being present, I postponed until the 12th, on which day I proceeded to the operation, in presence of Drs. Adams and Hervitt, in addition to the above-named gentlemen.

Rectum and bladder empty; chloroform being administered by Dr. Withers, I commenced with an exploratory incision, five inches in length, along the linea alba, below the umbilicus, laying bare the cyst. No adhesions within reach of the finger; cyst not vascular. Partial excision discarded,

[1] The monthly excitability of ovarian tumours has been observed by the writer in two other cases, and deserves perhaps a closer analysis in reference to better diagnosis of ovarian cysts.

for reasons hereafter to be assigned. Emptied the contents of the cyst with the lancet, and a large metallic catheter. The cyst having collapsed but imperfectly, a second cyst was suspected; but on examination, two internal tumours were discovered, for the passage of which the primary incision was enlarged to eight inches, leaving the umbilicus to the left. The whole tumour was now extravasated, whose pedicle was $2\frac{1}{2}$ inches wide, $1\frac{1}{2}$ inches thick, and about 8 inches in length. A double ligature of strong twine was placed through the centre of the pedicle, one inch from the cyst (taking the necessary precautions to avoid arteries), and tied to the right and left respectively, in a double knot. A third ligature was next laid immediately above the former, and the mass divided. An assistant holding the pedicle, the wound was closed (the left ovarium having been found healthy), and the ligatured end secured with a director at right angles with the axis of the body. A many-tailed bandage was applied around the abdomen, together with the usual adhesive strips and water-dressing.

The patient recovered well from the effects of chloroform, which—it is with both pleasure and justice I say it—had been uniformly and cautiously administered, vomited once during the operation, which was followed by a convulsive effort to expel the tumour through the incision. Two grains of solid opium were given as soon as the patient was brought to her bed. I will omit the treatment in detail, and will only remark that no symptoms of inflammation (peritonitis, etc.), showed themselves, except on Jan. 4th, 1859, in consequence of mental excitement. The pulse ranged in the first week from 130 to 100 to the minute; the appetite continued good; the catheter was introduced at stated intervals, for the first five days, after which time the bladder acted spontaneously. The bowels were moved on the 6th day. Removed the upper and lower sutures on the 9th day, the next two on the 13th, the intermediate silk sutures on December 26th, and the ligatures of the pedicle on January 2d, 1859; the pedicle was firmly adhering, and the abdominal walls had united. Was allowed to sit up on January 19th. The patient changed her home during February, and attended to her household duties. I am informed that Mrs. L. goes to church, two or three miles from her house, which distance she walks without any inconvenience, and expresses herself to feel as well as she ever did.

Remarks.—The cyst and contents weighed twenty-five pounds. The liquid was of a dark brown colour, of the consistence of molasses, and mixed with but few *débris* of mucous matter. Amount of liquid four gallons. On opening the cyst, two internal tumours were found, one eight inches in its convex aspect, near to the insertion of the pedicle, and the other somewhat smaller, and opposite to the first. The nature of the secondary cysts was tubercular, containing a yellowish, waxy matter; their walls had, in common with the primary cyst, two lining membranes. The formation of these secondary cysts, the difficulty of a correct diagnosis, and the impossibility of judging of their pathology, seem to me to forbid partial excision. Their supply of blood is sufficient for growth, even under unfavourable circumstances, as pressure, and determination of unhealthy action in another direction; the removal of that pressure, and the altered condition of the cyst itself may effect a cure of the disease attacked, but beget another of similar, or, perhaps, more malignant character. This result is the more probable from the secretive, but not absorptive nature of their lining membranes. In conclusion, I would state that a stylus of silver, pure lead, or brass, is preferable to a common director, in securing the pedicle external to the abdomen, for the obvious reason of their not corroding.

Fatal Hæmatemesis in Cancer of the Liver with Biliary Calculus. By JAMES CORSE, M. D.

Sarah ——, aged 28 years, married, and the mother of one child, has for many years been subject to occasional bilious attacks, at intervals of several months, occurring suddenly, with severe pain in the right side, near the lower ribs. They were supposed to be from colic, and would generally subside under the influence of large doses of laudanum, followed with active cathartics. She usually became very yellow after the pain abated, and felt great debility for a week or two; the severity of the suffering and the duration of the subsequent debility being increased with each succeeding attack.

On the 6th of July, 1857, I was called in the evening to see her while in the agony of one of these spells. She had gone the round of remedies to which she was accustomed, without having obtained the usual relief. I found her pale and very prostrate, the cathartic medicine having been vomited without having acted on the bowels. She was placed under a course of anodyne treatment until the pain abated, and then of cathartics, after which she soon recovered.

On the 17th of May, 1859, I was sent for again, and found that she had been under treatment for some time without relief. She was deathly pale, and extremely prostrate; the pulse was frequent, weak, and fluttering; the surface of her body was bathed in a clammy sweat, not exactly that of a moribund, yet closely approaching it. I learned that she had been suffering from the extreme pain in the right side, as formerly, and had also been *vomiting blood in large quantities for several days*, the bowels being obstinately constipated. Under appropriate remedies the pain ceased, and she reacted. I then directed attention to the bowels; gave ol. ricini and magnes. sulph. freely, but without the desired effect, as they were successively vomited. I then gave ol. tiglii in pills, and finally obtained an evacuation. The discharge was enormous in quantity, and consisted of clots of blood, and a dark, thick, and very fetid matter, the smell of which was in no degree like that of fecal matter. The members of the family were alarmed, and ran to tell me that she had voided her bowels, which they had kept for my inspection. The whole mass was, after a short but severe pain, expelled in the bed, the patient being unable to rise. From this mass I removed a few of what they supposed to be her bowels, and found them to be clots of blood, one of which was thirty inches in length. These clots have been moulded in the intestine in such a manner as to give us the cast of the cavity; the valvulæ conniventes are here represented very perfectly. This evacuation was followed by temporary relief, but a recurrence of pain soon took place. The skin then became dry and hot; the tongue dry, and accompanied with thirst; pulse full and frequent.

A course of treatment for inflammation was commenced, but soon interrupted by her tendency to sink, which steadily increased until she expired, a little more than twenty-four hours after the accession of the acute inflammation.

On *post-mortem* examination, the liver was found to be in a cancerous state, there being several small tumours (half a dozen or more) from half an inch to one inch in diameter, some of them being broken down, in a state of apparent suppuration. There was also circumscribed peritonitis, with much exudation of lymph. Adhesions had formed to the parietes of the abdomen, apparently in the effort to make an external opening; one of these was cut through in opening the body. The pyloric region of the

stomach, the upper end of the duodenum, the head of the pancreas, the gall-bladder, and the capsule of Glisson, were all adherent together in a fibrinous mass; this I removed, together with the entire stomach and a large portion of the liver. The intestines were healthy, but very pale. On further dissection and examination of the liver, I discovered a biliary calculus of a very large size, composed almost wholly of cholesterin. This calculus is globular in form, and eight lines in diameter. It was impacted in the ductus communis choledochus, blocking it up near its origin. An inflammatory action had followed the obstruction and distension of the duct, and resulted in the formation of artificial openings from it into the stomach and duodenum. Each of these false passages from the sac or cyst containing the calculus is distinct; the one into the stomach opens about three-quarters of an inch from the pylorus. There were three into the duodenum, and all opened near the orifice of the natural canal.

The ulcerative action around had opened a communication into the adjacent bloodvessels, and that produced the profuse hemorrhage.

American Surgeons in the Russian Army in the Crimea; Prevalence of Typhus Fever and Hospital Gangrene in the Russian Hospitals; Creasote as an application to Gangrenous Stumps. By C. R. PARKE, M. D., of Bloomington, Ill., late Assistant Surgeon in the Russian Military Service. (Extracted from a letter to Dr. Edward Hartshorne.)

I shall not at this time attempt to write an article on the medical and surgical practice in the Crimea, but will give you some of the leading facts connected therewith, from which you may be able to make some suggestions that will interest the profession. At some future time I intend reading a paper on this subject before our county society.

1. The Crimea is nearly surrounded by water; the Sea of Azof being on the east, and the Black Sea on the south and west. Hence there is a constant moisture in the atmosphere, enabling vegetable life to produce its kind luxuriantly. Although it is as far north as Quebec, many shrubs and other plants endure their long winters well, which, if transplanted into Illinois, several degrees further south, would be frozen out in the first winter. The southern and eastern portion of the Crimea is belted with a beautiful range of mountains, in the valleys of which grow nearly all kinds of vegetable products, but especially the vine. The winter is long; snow, rain, and mud succeeding each other in abundance. The summer is dry and delightful.

2. Most of the buildings used as hospitals in the Crimea were illy-adapted to such purposes; being mostly dwellings voluntarily given to the government for that particular use during the war; and such other public buildings as could be spared for the time. In all these temporary hospitals there was a great want of proper ventilation; the dwellings, particularly, being cut up into chambers ten by fifteen feet, and sometimes less. The only means of ventilation, or arrangements intended for that purpose, were small valves in one of the upper window-panes, about six inches in diameter; and it was only an occasional window that was even blessed with this air-hole. The doors communicating between the different chambers or apartments were always open. The surgical patients were kept in wards by themselves, but in the same buildings with those affected with typhus fever and other diseases. Small single cots were packed in, as close as possible, leaving barely room enough for the surgeon to walk between. Sometimes, after a fresh arrival, the floors would be covered with patients for a day or two, until they could

be distributed. It is the custom of the country to wax the floors and polish them with brushes made fast to the boots. The floors were kept as clean as possible, and were frequently wiped up with a solution of chlorinated lime, as were also the feet of the cots.

3. Several hospitals had a general superior who visited occasionally, and had a general supervision over all of us, as well as over the financial matters. Then there was another Russian physician, whose duty it was to be on the spot daily, to superintend that particular hospital, and to make known to us the will of our superior. Each American and German surgeon had his own particular ward or wards, with some six or eight dressers, who were selected from amongst the convalescent soldiers (serfs). As a general thing they were very poor nurses, requiring to be watched in order that their duties should be properly performed. The medical men of Russia are not, as a class, equal to the profession in other countries. The great majority of those in the Crimea being what they call "*ordinators*," graduated only in medicine. To many things the American surgeons could not subscribe; but we had to obey orders, even when our knowledge and judgment dictated to us a different and far better course. Proper ventilation was, amongst these matters of difference, one of our principal subjects of contention. It was quite common for all of us to suffer with headache before we had been in the hospital an hour. The windows were never opened, except when the American surgeons ordered it; and, I suppose, were immediately closed after we left, even in wards where gangrene reigned almost supreme. Our superiors in *rank* did not seem to appreciate the actual necessity of pure air in typhus and gangrenous wards.

4. The average number of sick and wounded in Simphopol (the capital, thirty miles from Sevastopol), during the winter of 1855 and 1856, was 15,000—a little over one-third of all the sick and wounded in the Crimea. The average number of deaths per day out of this 15,000 was 133, mostly from typhus fever and the effects of gangrene.

5. The Russians used acid. muriaticum dilut. almost exclusively in typhus fever. This was probably as good as any other medicine, while the patient was allowed to breathe the impure air of a typhus ward. It is only necessary to say that I have no confidence in it whatever, when used under such circumstances. One-half of the typhus patients suffered from parotiditis, which was sometimes suffocating.

6. I will merely state, on this occasion, that my experience in treating erysipelas with olive oil and cotton batting were quite satisfactory. I oiled the parts all over, then bound them up in the cotton.

7. Hospital gangrene in wounds and stumps was the great curse of the surgical wards. I cannot speak too highly of creasote in this disease. I have seen gangrenous stumps looking perfectly healthy in forty-eight hours, and sometimes in twenty-four, after the application of creasote in the following manner: Where the gangrene had affected the stump to the extent of half an inch or less, I have taken a swab and applied the pure oil all over the diseased parts and in the irregular cavities, then covered the parts with a cloth smeared over with a liniment composed of creasote ʒj, olive oil Oj. As I said, frequently in twenty-four hours the whole gangrenous mass would come off with the removal of the dressing. The protruding bone was never cut off, but left until it became partially absorbed within the healthy granular mass, when it was taken hold of with forceps, twisted off, and extracted. The time necessary for this absorption generally amounted to several weeks after the stump had taken on healthy action.

In conclusion, let me say, our patients had a good diet; being served with plenty of soup, good fresh meat, rye and buckwheat bread (which they preferred), and occasionally good *light* wheat bread, "*vodka*" (rye whisky) twice a day, and sometimes wine.

I am satisfied (climate and all things considered) that, had the medical and surgical departments been properly managed, the mortality above stated might have been greatly reduced.

N. B.—Dr. Parke informed me that of twenty-seven young American surgeons who served in the Russian hospitals during the late war, nine died of disease contracted in the wards—seven of typhus fever, and two of cholera. E. H.

Dr. Gott's Case of Excision of the Right Superior Maxilla and a Portion of the Left.—Since the account of this case was printed off (see pp. 344–8) we have received the following letter from Dr. G., dated Readstown, March 7, 1860, which gives the history of the case up to that date:—

Dear Sir: * * * I have seen Mr. Guist repeatedly since the operation in May last, and upon inquiry was informed that his general health had improved beyond his expectations. I accidentally met him in the forepart of last month, when he gave me the agreeable information that his health was better than it had been for the past two years; he also informed me of his marriage, and of his intention to rent a farm this spring.

The side of the face from which the tumour was removed appeared very much sunken for three or four months after the operation, but it has now filled out to a greater degree than one would have supposed, so that now there is scarcely any deformity remaining, except that resulting from the incisions. It is now nearly a year since the operation was performed, and there is no evidence as yet of the return of the disease. I do earnestly hope the young man will be spared further infliction from it, for he has suffered a great deal. Should anything of the kind take place, I shall deem it my duty to let you know.

Yours truly, WILLIAM A. GOTT.

Correction.—ISAAC HAYS, M. D., *Sir:* In the October number of the *American Journal of the Medical Sciences*, it was stated, in describing the operation for ligating the arteria innominata, that the summit of the sternum was removed. It should have been the right side of the summit of the sternum.

This was possibly a mistake of my own, or that of my amanuensis, or of the printer; and as it is a material point in the true description of that operation, I consider it of sufficient importance to request you to correct it.

Yours respectfully, E. S. COOPER.

SAN FRANCISCO, CAL., Dec. 17, 1859.

DOMESTIC SUMMARY.

Aneurism of the Ischiatic Artery; Ligature of this Vessel, and subsequently of the Primitive Iliac Artery—Prof. L. A. DUGAS relates (*Southern Med. and Surg. Journ.*, Oct., 1859) the following example of this:—

W. M. J., aged twenty-four years, came under Dr. D.'s care, in March, 1857.

He stated that when four years old, he fell from a tree and struck with his seat upon a rocky surface; but has no recollection of any contusion or injury to the part at that time. He was told that he was so badly stunned, that he was carried home insensible. About five years after this, he first felt a little tumour in the region of the tuberosity of the ischium, which has been steadily increasing ever since. He does not know when it began to pulsate, but thinks it has done so for several years. About a year ago a "Cancer Doctor" said, "he could cure him with plasters that would eat out the tumour." A plaster was accordingly applied, which gave him such intense pain, and caused so much inflammation and tumefaction, that he refused to have it repeated.

His condition, when Dr. D. examined him, was noted as follows: General health apparently very good; has a tumour as large as a goose's egg upon the inner cheek of the nates, near the tuberosity of the ischium, and extending upward and inward in the direction of the well-known course of the ischiatic artery. It is easy to grasp the whole tumour in the hand, and no distinct neck can be felt extending up beneath the gluteus maximus.

Its lower extremity protrudes about two inches beyond the general surface, is somewhat conical, soft to the touch, and feels as though there was no more than the thickness of the skin between its contents and the finger. The skin is also here of a red or dark hue, not unlike that presented by an acute abscess on the point of bursting. The tumour evidently contains a fluid which may be forced out of it by pressure, and which returns immediately when this is discontinued, the current of egress and of ingress being distinctly felt by the finger. The tumour pulsates visibly to the eye and sensibly to the hand; a distinct aneurismal thrill or whiz, with beats synchronous with the action of the heart, may be easily detected with the naked ear or with the stethoscope over the entire tumour, and *along the course of the ischiatic artery up to the sciatic notch, where it is most audible.* Firm pressure *upon the seat of the ischiatic artery at its exit from the pelvis, arrests both the pulsation and the whiz, and these return when the pressure is omitted.*

The tumour never gives him any pain, except when he rides on horseback, or sits long upon it. It then feels heavy and sore. It is evidently an aneurism of the *ischiatic artery*, probably induced by the traumatic cause above mentioned.

The following operation was performed on Monday, the 16th of March, in presence of a number of physicians and students: concentrated chloric ether was inhaled to intoxication, but not to coma; an incision five inches long was made in the middle of a line drawn from the posterior superior spinous process of the ilium, to the tuberosity of the ischium, and carried through the gluteus maximus which was unusually thick; ligated one small artery; exposed the inferior margin of the pyriformis, and found the ischiatic artery beating strongly and with a distinct thrill to the finger. When this was compressed, the pulsation in the tumour ceased, but would return upon removing the pressure. The vessel was now ligated with silk and the tumour ceased to pulsate and became pale and flabby. The edges of the wound were brought together with quill sutures, and a firm compressing bandage applied to the tumour. Two hours after the operation, a freezing mixture of ice and salt was applied for ten minutes to the tumour, over the bandage, and forty drops tr. opii administered.

March 17. Passed a bad night in consequence of febrile excitement and confined position; is still feverish and feels "sore all over;" no pulsation nor whiz in the tumour. Reapplied freezing mixture to tumour.

18*th*. More comfortable; no febrile excitement.

19*th*. Very comfortable; no pain; no pulsation in the tumour; removed the bandages and found that the tumour resumed partially its former fulness, but no pulse nor thrill detected by applying the ear. Some sanious pus discharged from wound upon pressure; did not disturb the sutures, but reapplied the compressing bandage. Bowels to be kept quiet with opiates.

20*th*. Feels very well; compresses got off during the night; the ligature upon the muscular branch came away; slight pulsation and sound detected in the tumour; compresses reapplied.

22*d*. Has had hemorrhage from the nose to-day; pulsation still perceptible slightly; adhesion of wound nearly complete, but suspecting pus beneath, I

removed the quill sutures and found suppuration pretty free from deep-seated parts.

24th. This morning at 8 o'clock the patient got out of bed, and on seating himself for an alvine evacuation, felt something suddenly "give way," and was immediately deluged with blood flowing from the wound. He was at once assisted to the bed and placed upon his abdomen, while pressure was exerted upon the wound. The bleeding ceased at once. On reaching him, about half an hour after the accident, and removing the dressing, no blood issued; the wound did not gape open, nor could I see from what point the blood escaped, although the quantity lost was estimated by his room-mates at from a pint to a quart. The ligature still in place, with the projecting end covered with adhesive plaster. Tumour still pulsates feebly. Covered the wound with a thick compress, firmly bound down by a many-tailed bandage carried around the pelvis. Bled again from the nose to-day, showing the hemorrhagic diathesis.

25th. At 4 o'clock P. M. the wound bled a little. I removed the dressing, but no blood issued. Reapplied compresses.

26th. Finding early in the morning that blood had been oozing from the wound all night, I invited several professional friends to meet me at 9 o'clock A. M., when, on removing the dressings, the blood gushed out in a torrent. I at once tore asunder the adherent surfaces, washed out the wound with a solution of sulphate of zinc, and brought the ischiatic artery fairly into view. The blood flowed from just above the seat of ligature. Bits of lint were applied to the bleeding point, and the wound well packed with them after the manner suggested by Dr. Mott, so as effectually to arrest the hemorrhage. The patient being very much exhausted, was then turned upon the back, and brandy given him. In consultation with the physicians present, it was determined to proceed at once to take up the common iliac artery. Being indisposed at the time, I requested my friend, Dr. Wm. J. Holt, late surgeon in the Crimean war, to perform the operation, which he did. The patient's feeble state deterred us from using any anæsthetic. He was on the verge of syncope during the whole time of the operation, and vomited several times before its completion, although he lost no blood. The peritoneum was wounded in consequence of his movements. The artery having been tied, the wound was closed by quill sutures; compresses dipped in cold water applied over the abdomen and ordered to be kept cool; brandy and laudanum was administered; and the patient allowed to rest.

27th. Passed a comfortless night; took one gr. opium every five or six hours, with a sufficient quantity of brandy; but gulped up continually whatever he took of broth or other drink; pulse bad; temperature of limb normal; no hemorrhage; some tenderness of abdomen; ordered opium pills, toddy, broth, iced water, and cold cloths to the abdomen to be continued.

28th. Evidently sinking; pulse feeble and frequent; still gulps up everything; limb warm; feels relieved of all soreness and thinks himself better.

29th. Died at 4 o'clock A. M. No post-mortem examination made.

Ligation of both Common Carotid Arteries, at an interval of seventeen days, for Epilepsy.—Dr. GUSTAV C. E. WEBER reports (*Cleveland Med. Gaz.*, Oct., 1859) a case of this. The subject of it was a German, twenty years of age, who had been the victim to epilepsy for five years. When he entered the Cleveland City Infirmary his attacks came on daily; but his constitution seemed to have suffered very little, and his intellectual powers were not diminished. The patient not having been benefited by treatment, Dr. Weber determined to ligate the left common carotid artery. This was performed on the 2d December, 1857. The artery was secured below the omohyoid muscle. The ligature was tightened gradually and slowly, and produced no untoward cerebral disturbance. Twelve days after the operation the ligature came away, and a few days afterwards the wound closed entirely.

For seven days the patient was free from fits, felt completely relieved from his former distressing symptoms. The headache was gone, the paresis of the arm disappeared, and he could speak as distinctly as any one.

On the eighth day after ligation of the artery the patient had three fits, and subsequently they became frequent, though not so severe as before.

Thinking the first operation had benefited the patient, Dr. W. decided to take up the other carotid—which was done on the seventeenth day after the first.

"For five weeks after this second operation," says Dr. W., "the patient was entirely free from fits. They then returned for a time daily, and very lightly indeed, consisting, in fact, simply of short moments of unconsciousness, and a few convulsive movements of the muscles. Gradually they increased in severity, but diminished in number. For more than half a year he had an attack only once a week, or every two weeks. Since then again, they became slowly more frequent, and now, nearly two years after the first surgical interference, he has an attack every two or three days. They are, however, by far not so violent as they were before the arteries were taken up."

The patient enjoys good health, "but his intellect seems to become a little impaired;" and Dr. W. says he entertains no doubt but that in time he will become idiotic.

[The result of this case seems to us to afford little encouragement for an imitation of this practice.]

—

Ligature of the Femoral Artery for the Cure of Elephantiasis of the Leg and Foot.—Dr. T. L. Ogier reports (*Charleston Med. Journ.*, March, 1860) a case of elephantiasis of the leg and foot, of enormous size, which had existed for five years, in a negro man, twenty-six years of age, in which he applied a ligature to the femoral. At the time of the report, three months since the operation, it is stated that "the leg and foot have subsided to very nearly the natural size."

It is to be hoped that the subsequent history of the case may be made known. In Dr. Carnochan's case, supposed by Dr. O. to have been cured, the disease, as already stated (see pp. 474–475 in this number), returned.

—

Ligature of the Subclavian.—Dr. Shrady reports (*New York Journ. Med.*, Jan., 1860) a case of aneurism in the right axilla, resulting from a fall, admitted into the New York Hospital, for which Prof. Parker applied a ligature to the subclavian. The patient died on the fourth day.

—

Tracheotomy in Croup.—Dr. Voss records (*New York Journ. Med.*) fourteen cases of croup, in which he resorted to tracheotomy. Of these, five recovered and nine died. Of the patients, eight were boys, of whom two only recovered; of the six girls, three recovered.

—

Ovariotomy in Ohio.—Prof. J. W. Hamilton, in his report made to the Ohio Medical Society (*Ohio Med. and Surg. Journal*, Nov., 1859), has collected an account of the operations for ovarian disease performed in Ohio.

He states that ovariotomy has been performed or attempted forty-two times, where the operator and patient belonged to Ohio; in eight cases by Ohio surgeons upon patients residing in other States, and one on a resident of Ohio by a surgeon of an adjoining State, making a total of fifty-one cases.

In thirteen cases extirpation was impracticable; in seven of these the attempt was evidently the cause of death.

In thirty-seven cases extirpation was accomplished; in sixteen of these death was evidently caused by the operation. In twenty cases recovery took place.

—

Fracture at the Base of the Cranium; Discharge of Blood and Brain from the External Ear; Recovery.—In our number for April last will be found a case by Dr. Lockwood, of recovery after an accident of this kind. A similar case, with the same fortunate result, is recorded by Dr. E. B. Haskins, of Clarksville, Tenn., in the *Nashville Medical Record* for October, 1859. The subject of the latter was a boy, three years of age, who fell eighteen feet, on a hard surface.

—

Penetrating Wound of the Brain.—Mr. G. Devron, resident student of the Charity Hospital, N. O., reports (*N. O. Med. News and Hosp. Gaz.*, Feb., 1860) the following remarkable case of this:—

"Laurent Fleury, native of France, aged twenty-nine years, blacksmith, en-

tered the Charity Hospital on the morning of the 7th of November, 1859, with three apparently slight wounds, said to have been inflicted by a couple of women, about 1 P. M. that day. The wounds were situated as follows: one on the left occipito-parietal region, one on the face, and one on the left shoulder. They were all dressed with strips of adhesive plaster. As that on the scalp was bleeding profusely, a styptic preparation was used, and it was then dressed. The patient returned home the same evening, but next day he was readmitted into the hospital, complaining of his throat. Examination showed that in the melee he had evidently been strangled, as his tongue was much swollen, and he felt some pain when speaking. The wounds above described were cleansed and redressed; a light diet and rest were prescribed, and that day he sat up and took his meals without complaining of any pain. Next morning he remained in bed, but did not complain of pain; only felt weak. He also stated that he had rested well all night.

"At 11 A. M. he complained of headache, and was somewhat sleepy; and now he gradually lapsed into a state of coma, and died on the 9th, at 8 P. M.

"The next day, while assisting Dr. Hart, city physician, in making a post-mortem examination, on enlarging the wound of the head, to search for fracture of the skull, I discovered a black substance, resembling iron, on a level with the external plate of bone. I attempted to remove it, but found that great force would be necessary. I then excised a segment of the surrounding scalp, and, on removing a corresponding segment of the bone, found that the foreign substance was the blade of a pocket-knife, which had been driven through and broken off near the handle, and was penetrating the brain to the depth of two inches, at a point nearly corresponding to the junction of the sagittal and lambdoidal sutures. There was no blood effused internally, but some clear liquid. The brain at this point seemed softer than in the opposite lobe."

Turpentine in Stomatitis Materna.—Dr. D. S. BRANDON, of Georgia (*Southern Med. and Surg. Journ.*, Jan., 1860), extols the efficacy of the oil of turpentine in the treatment of stomatitis materna. He gives the oil in the dose of twelve drops three or four times a day. If there be constipation he prescribes a dose of castor oil, and if there be diarrhœa present combines laudanum with the turpentine. He says this treatment has proved very efficient in his hands.

Labour, with the Hymen Unbroken.—Dr. JOHN YALE records (*Boston Med. and Surg. Journal*, Nov. 10, 1859) a remarkable case of this in an Irishwoman, eighteen years of age, who had been married ten months. On examination, the hymen was felt to be in a state of cartilaginous hardness, and no aperture could be found by the finger in the vagina. Through the rectum, the inclosed waters were felt slightly protruding into the vagina, with the head entering the superior strait. In two hours the membranes ruptured, and the waters discharged into the vagina, producing a bulging of the hymen outward, not unlike in feeling to the unbroken bag of waters. A slight moisture only was felt on the external parts. A probe was now carried on the end of the finger in search of an orifice to be enlarged by incision, but in vain. A less forcible pressure, however, by the finger point, than had been used, broke through the hymen, it having been apparently thinned and macerated by the progress of labour. The waters gushed forth, and the child soon followed.

INDEX.

A.

Abdominal viscera, malposition of, 191
Abortion, criminal, 465
Abscess succeeding childbirth, 285
Absorption, cutaneous, 213
Aconite in tetanus, 533
Acupressure, 538
Addison's disease, 188
Adhesive plaster, counter-extension by, 283, 565
Adynamic type of remittent fever, 43
African fever on the lower Zambezi, 220
Alum lozenges in affections of throat, 219
American Medical Association, review of transactions of, 439
——— surgeons in the Russian army, 570
Ameuille, sudden delivery, 563
Amputation, causes of death after, 480
——— of a gangrenous arm, 89
——— scooping of bone substituted for, 257
Amputations, mortality after, 205
Anasarca, renal, 231
Aneurism of aorta, 82
——— cerebral vessels, 194
——— orbit, 481
——— the ischiatic artery, 572
——— thoracic aorta, 482
Aneurisms, iodide of potassium in, 549
Angina pectoris, pathology of, 224
Animal chemistry and its relations to therapeutics, 351
Anthrax, new method of treating, 548
Antiphlogistic powers of morphia, 553
Anus, artificial, 266
Aorta, aneurism of, 82
Aortic valves, retroversion of, 195
Apoplexy, 189
Argenti, alum lozenges in affections of throat, 219
Arsenic, fallacy of sources of in dead bodies, 280
——— poisoning by, 564
Arteries, injured, 197
Asphyxia from chloroform, Faradization of lungs in, 537
Atlee, vesico-vaginal fistula, 67
Avelung, difficulty of delivery in rupture of uterus, 558

B.

Bagot, sickness of pregnancy, 275
Barlow, heart disease, 197
Bartholow, medical topography, &c., of Fort Bridger, 323
Beck's Medical Jurisprudence, notice of, 211
Becquerel, cylindrical pencils of tannin in affections of uterus, 536
Bell, pathology and therapeutics of typhus fever, 525
Beraud, variolous orchitis and ovaritis, 522
Bibliographical notices—
——— Bennett's Clinical Lectures, 505
——— Bryant on Diseases and Injuries of Joints, 487
——— Butler Hospital for the Insane Report, 459
——— Carnochan, Contributions to Surgery, 474
——— Cotton, Phthisis and the Stethoscope, 502
——— Diaphemetric Compass, 499
——— Gerhard on Diseases of the Chest, 506
——— Guy's Hospital Reports, 183
——— Habershon on Diseases of Alimentary Canal, 198
——— Halford, Action and Sounds of the Heart, 498
——— Humphry, Coagulation of the Blood in the Venous System during life, 497
——— Isaacs on Milky Urine, 472
——— Maine Insane Hospital Report, 453
——— Massachusetts State Hospital, Worcester Report, 454
——— at Taunton, Report, 456
——— Northampton Report, 458
——— McWilliam, Health of Waterguard, &c., 492
——— Medico-Chirurgical Transactions, 476
——— Meigs on a Fragmentary Human Skull, 506
——— Ogle, Clinical Cases illustrative of Dr. Brown-Sequard's views, 499
——— Paget's Lectures on Surgical Pathology, 505
——— Parrish, Practical Pharmacy, 177
——— Pathological Cases, 499
——— Pennsylvania, Transactions of State Medical Society of, 151
——— of Massachusetts Medical Society, 157
——— Pennsylvania State Insane Hospital Report, 462
——— Michel on Pituitary Body, 475
——— Minutes of Tenth Annual Meeting of Medical Society of North Carolina, 162
——— Pemberton, Excision of Knee-Joint, 494
——— Proceedings of 67th Annual Convention of Connecticut Medical Society, 163
——— Report of Committee on the Health of New York, 178
——— Report of New York Chamber of Commerce on Quarantine, 470
——— Reports of American Institutions for the Insane, 166
Bloomingdale Asylum, 169
Illinois State Hospital, 175
Indiana Hospital, 174

Bibliographical Notices—
King Co. (N. Y.) Asylum, 169
Missouri State Hospital, 175
Mount Hope Institution, 172
New Jersey State Asylum, 171
New York State Asylum, 167
Vermont Asylum, 166, 454
Western Asylum of Kentucky, 173
——— Snow, Report on Smallpox in Providence, 468
——— Stillé, Therapeutics and Materia Medica, 505
——— Storer, Criminal Abortion in America, 465
——— Taft, Operative Dentistry, 506
——— Thomas on Suspended Fœtal Animation, 181
——— Tomes' Dental Surgery, 504
——— Transactions of American State Medical Societies, 151
——— Transactions of Indiana State Medical Society, 159
——— Waters, Anatomy of Human Lung, 490
——— Intimate Structure of Human Lung, 490
——— West, Lectures on Diseases of Children, 502
——— Western Lunatic Asylum of Virginia Report, 464
——— Western Pennsylvania Insane Hospital Report, 463
——— Wood, Introductory Lectures, 503
Bird, Urinary Deposits, notice of, 208
Birkett, excision of head of humerus, 476
——— strangulated oblique inguinal hernia, 483
——— surgery of tumours, 194
Blackley, new method of treating anthrax, 548
Bladder, supra-pubic puncture of, 91
Blennorrhagia treated with colchicum and laudanum, 551
Blondlot, poisoning by arsenic, 564
Blood, coagulation of, 508
——— nutrition by in starvation, 510
——— coagulation of in veins during life, 497
Bloodgood, bronchia respiration, 51
Bloomingdale Asylum for Insane, notice of report, 169
Bone, refracture of, 477
Bouillaud, iodide of potassium in aneurisms, 549
Bowles, causes and treatment of stertor, 530
Bowman, new operation for conical cornea, 554
Brain, importance of free respiration in certain states of, 529
——— penetrating wound of, 575
Brainard, trephining in epilepsy and insanity, 281
Brandon, turpentine in stomatitis materna, 576
Bright's disease dependent upon two distinct conditions of kidneys, 230
——— disease of kidneys, 481
Bronchial respiration, 51
Bronchitis, independence of on pneumonia, 233
Brown, adynamic type of remittent fever, 43
Brown-Séquard, hereditariness of epilepsy induced in Guinea-pig, 238
Bryant, causes of death after amputation, 480
——— diseases and injuries of the joints, 487
——— hemorrhage from bowels in children, 267
——— injuries and diseases of nervous system, 183
Bryson, night-blindness in connection with scurvy, 270
Budd, cancerous tumours in chest, 483
Butler Hospital for Insane, notice of report of, 459

C.

Cancer, treatment of by caustic potass and chloride of zinc, 549
Cancerous tumours in chest, 483
Carnochan, contributions to operative surgery, notice of, 474
Carotid arteries, ligature of both, 574
——— common, ligature of, 481
Cataract, intra-ocular hemorrhage after extraction of, 268
——— production of, in frogs, 106
Caustics in cancer, 549
Children, influence of sex on diseases of, 536
——— angina pharyngea œdematosa in, 537
Chlorate of potash in mercurial stomatitis, 245
Chloride of zinc, new mode of applying, 219
Chlorine lotions in variola, 535
Chloroform, Faradization of the lungs in asphyxia from, 537
Chorea treated with sulphate of zinc, 242
Cleland, saccharated lime, 217
Coldstream, iodide of potassium in diseases of the brain in children, 244
Colles, affusion in knee-joint treated by iodine injections, 255
Conical cornea, new operation for, 554
Connecticut Medical Society, notice of transactions of, 163
Consumption, physical signs of, 502
Cooke, deodorization of foul ulcers, 267
——— treatment of gonorrhœa and gleet without copaiba, 550
Coote, corns on sole of foot, 268
Copaiba, treatment of gonorrhœa and gleet without, 550
Corns on sole of foot, 268
Correction, 572
Corse, fatal hæmatemesis, 569
Cotton, iodide of potassium in phthisis, 532
——— phthisis and the stethoscope, 502
Creasote as an application to gangrenous stumps, 570
Crighton, epidemic diphtheria, 518
Crockett, vesico-vaginal fistula, 121
Croup, tracheotomy in, 546, 575
Cutaneous absorption, 213
Cyanide of potassium, poisoning with, 279

D.

Daly, larch bark in pulmonary hemorrhage, 248
Darrach, aneurism of aorta, 82

Delivery, sudden, 563
Demeaux and Corne, new disinfectant, 219
Dental pathology, 196
Deodorants, 514
Deodorization of foul ulcers, 267
Devergie on oils of liver of cod, dogfish, and skate, 512
Devron, penetrating wound of the brain, 575
Diabetes, 229
——— from lesion of nervous system, 192
Diaphemetric compass, 499
Dickinson, Bright's disease dependent upon two distinct conditions of kidneys, 230
Diphtheria, epidemic, 518
Disinfectant, new, 219
Dislocation of os calcis from astragalus, 478
Donkin, pathology and treatment of placenta prævia, 561
Dropsy, sambucus niger in, 536
Dugas, aneurism of ischiatic artery, 572
Dunn, statistics of midwifery practice, 273

E.

Eisenmann, chlorine lotions in variola, 535
——— blennorrhagia treated by vinum colchici and laudanum, 551
Elephantiasis, ligature of femoral artery for, 575
Ellis, tubercle, 399
Empyema, drainage in, 483
Emulgent veins, retrograde course of, 507
Epilepsy cured by removal of a portion of depressed bone, 87
——— hereditariness of, 238
——— trephining in, 281
——— ligature of both carotids for, 574

F.

Face presentation, 366
Falls from great heights, 552
Faradization of lungs in asphyxia from chloroform, 537
Femoral artery, ligature of for elephantiasis, 474, 575
Femur, counter-extension in the treatment of fractures of, 565
——— extra-capsular fracture of, 258
Fenner, ununited fracture, 342
Flourens, History of the Circulation of the Blood, review of, 140
Fœtal head, measurement of at term, 111
Foreign body in nose, 567
Fort Bridger, medical topography, &c., of, 323
Foster, contraction of the œsophagus, 183
Fracture of base of cranium, 575
——— femur, 258
——— clavicle, 262
——— counter-extension by means of adhesive plaster, 283, 565
——— of long bones, non-reducibility of, 544.
Francheschi, retrograde course of emulgent veins, 508
Friedberg, Faradization of lungs in asphyxia from chloroform, 537
Fuller, renal anasarca, 231

G.

Gairdner, aneurism of thoracic aorta, 482
Galvanism in photophobia, 114
——— rheumatism, 119
——— paralysis agitans, 246
Gangrene, amputation during the progress of, 88
Garrod, microscopical character of gouty inflammation, 223
Gastrotomy, 183
Gonorrhœa and gleet treated without copaiba, 550
——— cured by vinum colchici and laudanum, 551
Goodfellow, drainage in empyema, 483
Gordon, extra-capsular fracture of femur, 258
———, fracture of clavicle, 262
Gosselin, non-reducibility of fractures of long bones, 544
Gott, exsection of right superior maxilla, 344, 572
Gouty inflammation, microscopical character of, 223
Griesinger, pathology of diabetes, 229
Gross' System of Surgery, review of, 127
Gull, aneurism of cerebral vessels, 194
—— retroversion of aortic valves, 195
—— destructive changes in lung, 196
—— factitious urticaria, 196
Gunshot wound, amputation, 365
——— in loins, 191
Gustaf von Duben on Microscopical Diagnosis, notice of, 210
Guy's Hospital Reports, notice of, 183

H.

Habershon, etiology and treatment of peritonitis, 526
——— malposition of abdominal viscera, 191
——— on Diseases of Alimentary Canal, notice of, 198
——— pain as a sign of disease of stomach, 235
——— gunshot wound, 191
——— pyæmia, 191
Hæmatemesis, 569
Halford, action and sounds of heart, 498
Hamilton on Fractures and Dislocations, review of, 419
——— statistics of ovariotomy in Ohio, 575
Harley, saccharine function of liver, 510
Harvey, abscess succeeding childbirth, 285
Hassall, crystals of phosphate of lime in human urine, 511
Haughton, opposite action of strychnine and nicotine, 280
Hawkins, sequel of a case of lithotomy, 486
Heart, action and sounds of, 498
—— disease, 197
—— hypertrophy of during pregnancy, 275
Hernia, new mode of reducing strangulated, 284
—— reduction "en masse," 483
Hewson, galvanism in photophobia, 114
Hicks, rupture of uterus, 188
Hildige, intra-ocular hemorrhage after operation for cataract by extraction, 268
Hodge, counter-extension in the treatment of fractures of the femur, 565

Horner's muscle, voluntary power of using, 557
Humerus, excision of head of, 476
Humphry, coagulation of blood in veins during life, 497
Hunter, hypodermic treatment of disease, 238
——— importance of free respiration in certain states of the brain, 529
Hydrophobia successfully treated, 96
Hymen unbroken, 576
Hypodermic treatment of disease, 238

I.

Iliac, ligature of primitive, 572
Illinois State Hospital for Insane, notice of report, 175
Indiana State Medical Society, notice of transactions of, 159
——— Hospital for Insane, notice of report of, 174
Inflammation, treatment of, 17
——— state of capillary bloodvessels in, 62
Inoculation, primary syphilitic, 487
Insane Hospital Reports, notices of, 166, 453
——— Hospital for Insane, report of, 174
Insanity, trephining in, 281
Inverted toe nail, 124
Iodide of potassium in diseases of brain in children, 244
——— in aneurisms, 549
——— in phthisis, 532
Iodine injections in knee-joint, 255
Iron, perchloride of, 218
Irwin, amputation of a gangrenous arm, 88
Isaacs, case of milky urine, 472
Ischiatic artery, ligature of for aneurism, 572

J.

Jago, voluntary power of using Horner's muscle, 357
Jewell, report on meteorology and epidemics of Philadelphia in 1859, 377
Jobert, subarachnoidean fluid, 216
Johnson, Bright's disease of kidneys, 481
Jones, disarticulation of scapula from shoulder-joint, 477

K.

Keller, face presentation, 366
King, gunshot wound, 365
——, foreign body in the nose, 567
King's Co. (N. Y.) Asylum for Insane, notice of report, 169
Kirkbride, description of Pennsylvania Hospital for Insane, 305
Knee-joint, effusion in treated by iodine injections, 255
———, excision of, 256
Kuchenmeister, water-glass; 517
Kuttner, influence of sex on diseases of children, 536

L.

Laborde, chlorate of potash in mercurial stomatitis, 245
Labour, with hymen unbroken, 576
Larch bark in pulmonary hemorrhage, 248
Larcher, hypertrophy of heart during pregnancy, 275
Laurence, antiphlogistic powers of morphia in sclerotitis and iritis, 553
Lawson, treatment of inflammation, 17
Lea, possible ultimate causes of disease, 360
Leake, exsection of superior maxilla, 348
Lee, primary syphilitic inoculation, 487
Leidy, vesicating principle of lytta vittata, 60
Levergood, compound comminuted fracture of patella, 85
Ligature of both carotids, 574
——— femoral, 575
——— subclavian, 575
Ligget, hydrophobia, 96
Lister, coagulation of the blood, 508
Liver, saccharine function of, 510
Livingstone, African fever, 220
Lobb, idiopathic peripheral neuralgia, 232
Lockwood, fracture of base of cranium, 575
Lois, fallacy of sources of arsenic in dead bodies, 280
Lung, destructive changes in, 196
——— left divided into two lobes, 565
Lytta vittata, vesicating principle of, 60

M.

Maine Insane Hospital Report, notice of, 453
Mallett, falls from great heights, 552
Marc d'Espine, epidemic variola in Geneva, 519
Mason, tracheotomy for removal of persimmon seed, 122
Massachusetts Medical Society, notice of medical communications, 157
——— State Hospitals, notice of reports of, 454, 456, 458
McWillams, report on health of waterguard, &c., notice of, 492
Mercurial stomatitis, chlorate of potash in, 245
Michel, pituitary body, 475
Microscopical Diagnosis, notice of Gustaf von Duben on, 210
Midwifery statistics, 271, 273
Missouri State Hospital for Insane, notice of, 175
Mitchell, production of cataract in frogs, 106
Morphia, antiphlogistic powers of, 553
Mount Hope Institution for Insane, notice of report, 172
Mouth, chlorate of potash in diseases of, 245
Mushet, pathology of angina pectoris, 224
Musset, sugar in urine, 531

N.

Nervous system, diseases and injuries of, 183
Neuralgia, idiopathic peripheral, 232
New Jersey State Asylum for Insane, notice of report of, 171
New Orleans, yellow fever in, 284
New York State Asylum for Insane, notice of report, 167
———, notice of report of committee on health of, 178
Nicotine and strychnine, opposite action of, 280
Night-blindness in connection with scurvy, 270
North Carolina Medical Society, notice of transactions of, 162
Nose, foreign body in, 567
Nunneley, aneurism of orbit, 481

O.

Ogier, ligature of femoral artery for elephantiasis, 575
Ogle, clinical cases, 499
——, diaphemetric compass, 598
——, induced cerebral paralysis, 485
——, pathological cases, 501
Oils from the liver of the cod skate and dogfish, 512
Ovariotomy, 567, 575

P.

Packard, left lung divided into two lobes, 565
——, state of capillary bloodvessels in inflammation, 62
Parke, American surgeons in the Russian army, 570
Paralysis agitans, cured by galvanic current, 246
Pain as a sign of disease of stomach, 235
Parrish, Practical Pharmacy, notice of, 177
Patella, compound comminuted fracture of, 85
Pavy, diabetes from lesions of nervous system, 192
Pennsylvania Hospital for Insane, account of, 305
—— State Lunatic Asylums, notice of reports of, 462, 463
——, notice of Transactions of Medical Society of, 151
Pemberton, excision of knee-joint, notice of, 494
Peritonitis, etiology and treatment of, 526
Photophobia, galvanism in, 114
Phosphate of lime in human urine, 511
Phthisis, iodide of potassium in, 532
——, elements of prognosis in, 248
Pituitary body, pathology of, 475
Placenta prævia, pathology and treatment of, 561
Plica polonica endemic at Anno Bom, 363
Poland and Holman, injured arteries, 197
Poisoning, cases of, 190
—— with sulpho-cyanide of potassium, 278
—— by cyanide of potassium, 279
Pollock, prognosis in phthisis, 248
——, dislocation of os calcis from astragalus, 478
Polypi, uterine, 562
Polypus of rectum in children, 267
Porter, inverted toe-nail, 125
Pregnancy, sickness of, 275
—— hypertrophy of heart during, 275
Pulmonary hemorrhage, larch bark in, 248
Pyæmia, 191

Q.

Quarantine, Report of New York Chamber of Commerce on, notice of, 470

R.

Recto-vesical operation for vesical calculus, 486
Rectum, imperforate, 375
Resection, scooping of bone substituted for, 257
Remittent fever, adynamic type of, 43
Reviews—
—— Flourens' History of the Circulation of the Blood, 140
—— Gross's System of Surgery, 127
—— Hamilton on Fractures and Dislocations, 419
—— Transactions of the American Medical Association, 439
Reynolds, paralysis agitans cured by galvanic current, 246
Reyssie, sambucus niger in dropsy, 536
Rheumatism, electro-magnetism in, 119
Rheumatic fever, 192
Robert, accidents from development of wisdom teeth, 237
Robin, independence of bronchitis to pneumonia, 233
Rochard, operation for artificial anus in children, 266
Roemer, ovariotomy, 567
Richardson, new mode of reducing strangulated hernia, 284
Rilliet, dilatation of stomach, 523
Ringer, connection between heat of the body and excreted amounts of urea, &c., during a fit of ague, 484
Rupture of uterus, difficulty of delivery in, 558

S.

Saccharated lime, 217
Salmon and Maunoury, treatment of cancer, 549
Salter, dental pathology, 196
Sambucus niger in dropsy, 536
Sanborn, silver wire in ununited fracture, 339
Sansom, statistics of amputations, 205
Savory, hermaphrodite sheep, 480
Scapula, disarticulation of, 477
Schauenstein, poisoning with cyanide of potassium, 279
Schneck, supra-pubic puncture of bladder, 91
Scooping of bone substituted for resection and amputation, 257
Scurvy, night-blindness in connection with, 270
Sedgwick, aconite in etanus, 533
Sedillot, scooping of bone, substituted for resection, &c., 257
Setschenow, poisoning with sulpho-cyanide of potassium, 278
Sex, influence of on diseases of children, 536
Shrady, ligature of subclavian, 575
Sickness of pregnancy, 275
Silver wire in ununited fracture, 339
Simpson, acupressure, 538
Skey, refracture of bone, 477
Skinner on deodorants, 514
Smith, cyclical changes in human system, 480
——, statistics of midwifery practice, 273
——, vesico-vaginal fistula, 282
Snow, smallpox in Providence, 468
Southern, vesical calculus, 486
Spence, new mode of applying chloride of zinc, 219
——, tracheotomy for croup, 546
Starvation, nutrition by blood in, 510
Statistics of midwifery practice, 273
—— stillbirths, 271

Stertor, its causes and treatment, 530
Still-births, statistics of, 271
Stomach, pain as a sign of disease of, 235
———, dilatation of, 523
Stomatitis materna, 576
Stone, sulphate of zinc in chorea, 242
Storer, Criminal Abortion in America, notice of, 465
Strangulated hernia, new mode of reducing, 284
Stricture of urethra, internal incision for, 264
Strychnine and nicotine, opposite action of, 280
Subclavian, ligature of, 575
Sub-arachnoidean fluid, 216
Sudden delivery, 563
Sugar in the urine, 531
Sulphate of zinc in chorea, 242
Sulpho-cyanide of potassium, poisoning with, 278
Superior maxilla, exsection of right, 344
——————— exsection of, 348
Syphilitic inoculation, 487

T.

Taft, operative dentistry, notice of, 505
Tannin, cylindrical pencils of in affections of uterus, 536
Teed, animal chemistry in relation to therapeutics, 351
Tetanus, aconite in, 533
——— woorara in, 252
Thomas on suspended fœtal animation, notice of, 181
Thompson, internal incision in obstinate stricture of urethra, 264
Toe-nail inverted, 124
Tomes' Dental Surgery, 504
Tracheotomy for removal of persimmon seed, 122
——————— in croup, 546, 575
Transactions of American State Medical Societies, notices of, 151
Transverse vertex presentation, 367
Trephining in epilepsy and insanity, 281
Trist, electro-magnetism in rheumatism, 119
Tubercle, pathology of, 399
Tumours, surgery of, 194
Typhus fever, pathology and therapeutics of, 525
Turpentine in stomatitis materna, 576

U.

Ulcers, deodorization of foul, 267
University of London, new regulations, 564
Ununited fracture, silver wire in, 339
———————, Fenner's case of, 342
Urea in chyle and lymph, 216
Urethra, internal incision in obstinate stricture of, 264
Urine, crystals of phosphate of lime in, 511
———, milky, 472
———, retention of, 91
——— sugar in, 531
Urinary Deposits, notice of Bird on, 208
Urticaria, factitious, 196
Uterus, cylindrical pencils of tannin in affections of, 536
———, difficulty of delivery in rupture of, 558
———, inverted, replaced, 276
———, rupture of, 188
Uterine polypi, 562

V.

Van Pelt, measurement of fœtal head at term, 111
———, occipito-iliac positions of vertex presentations, 367
Variola, chlorine lotions in, 535
———, epidemic of in Geneva, 519
——————— in Prussia, 521
Variolous orchis and ovaritis, 522
Vedder, plica polonica, 363
Velpeau, uterine polypi, 562
Vermont Asylum for Insane, notice of report, 166
——— Insane Hospital report, notice of, 454
Vesicating principle of lytta vittata, 60
Vesico-vaginal fistula, 67, 121, 282
Virginia Western Lunatic Asylum report, notice of, 464
Voss, tracheotomy in croup, 575

W.

Wallace, imperforate rectum, 375
Waller, cutaneous absorption, 213
Waters, anatomy of human lung, 490
——— intimate structure of human lung, 490
Water-glass as a partial substitute for collodion, 517
Watson, excision of knee-joint, 256
Weber, ligature of both carotids for epilepsy, 574
Wells, woorara in tetanus, 252
West, Diseases of Children, 502
——, statistics of stillbirths, 271
Western Asylum of Kentucky report, notice of, 173
Westheimer, angina pharyngea œdematosa in children, 537
Whitley, rheumatic fever, 192
Wilks, Addison's disease, 188
——— apoplexy, 189
Wood, Introductory Lectures, 503
Woodward, contributions to pathological histology, 331
Woorara in tetanus, 252
Wurtz urea in chyle and lymph, 216
——— inverted uterus replaced, 276

Y.

Yale, labour with hymen unbroken, 576
Yeates, epilepsy cured by the removal of a portion of depressed bone, 87
Yellow fever in New Orleans, its domestic origin, 284

GRADUATES OF JEFFERSON MEDICAL COLLEGE OF PHILADELPHIA,

MARCH, 1860.

At a Public Commencement, held on the 12th of March, 1860, the degree of DOCTOR OF MEDICINE was conferred on the following gentlemen by the Hon. EDWARD KING, LL. D., President of the Institution; after which a Valedictory Address to the Graduates was delivered by Prof. GROSS.

NAME.	STATE OR COUNTRY.	SUBJECT OF THESIS.
Abercrombie, George A.	Alabama.	Signs of Pregnancy.
Adair, J. Todd	Pennsylvania.	Iodide of Potassium.
Adams, Patrick H.	South Carolina.	Plastic Matter.
Addison, William J.	Maryland.	Stricture of the Urethra.
Andrews, A. E.	Georgia.	Stimulants
Arnold, A. E.	Louisiana.	Physiology of Death.
Atkins, William L.	Kentucky.	Scarlet Fever.
Bache, Dallas	Dist. of Columbia.	Pathological Physiognomy.
Bailey, L. Philip	Virginia.	Effects of Onanism.
Barksdale, M. S.	Virginia.	Variola.
Bass, James P.	Tennessee.	Nutrition.
Bass, Joseph F.	Virginia.	Cephalalgia.
Beesley, James P.	Mississippi.	Digestion.
Bigelow, Robert J.	Florida.	Scarlatina Maligna.
Bishop, Milton	Georgia.	Ipecacuanha.
Blackwell, Nicholas	Mississippi.	Typhoid Pneumonia.
Blanck, George A.	Pennsylvania.	Duty of the Obstetrician in Natural Labor.
Blocker, John E.	Georgia.	Enteric Fever.
Brinton, Daniel G.	Pennsylvania.	Supposed Pathological Influence of the Moon.
Burkhalter, Charles M.	South Carolina.	Acute Dysentery.
Buterbaugh, John (M. D.)	Maryland.	Acute and Chronic Metritis.
Butler, L. M.	Florida.	Yellow Fever.
Butler, Matthew M.	Tennessee.	Glance at the Science of Medicine.
Butts, Judson A.	Georgia.	Sulphuric Acid.
Campbell, Marcus	Texas.	Yellow Fever.
Campbell, Robert	Virginia.	Therapeutic Application of Cold in Fevers.
Chandler, Joseph H.	Delaware.	Treatment of Laryngitis.
Childs, Benjamin F.	Georgia.	Tertiary Syphilis
Clendenin, William G.	North Carolina.	Vitality of the Blood.
Cline, Godfrey H.	Pennsylvania.	Apoplexy.
Coates, Benjamin F.	Ohio.	Dysentery.
Cochran, E. C.	Tennessee.	Malarious Diseases of East Tennessee.
Collins, May B.	Missouri.	Young Doctor and his Profession.
Comstock, Lucius L.	Ohio.	Mania a potu.
Cooper, James D.	Virginia.	Physiology of the Circulation.
Cooper, John Atchison	Kentucky.	Aneurism.
Cowin, John H.	Alabama.	Croup.
Crawford, John D.	Virginia.	Menstruation.
Cunningham, John S.	Pennsylvania.	Death from Faulty Innervation of the Pneumogastric Nerve.
Davis, William N.	Pennsylvania.	Syphilis.
Deane, James S.	Arkansas.	Pneumonia.
Delany, Alfred	Pennsylvania.	Cynanche Trachealis.
Dennis, Jacob M.	Virginia.	Phthisis Pulmonalis.
Dixon, John	Alabama.	Abortion.
Dula, F. G.	North Carolina.	Injuries of Intemperance.
Duncan, Thomas F.	Pennsylvania.	Scarlatina.
Dunlap, B. G.	North Carolina.	Tobacco.
Dunlap, James C.	Virginia.	Mercury.
Elkin, Thomas B.	Mississippi.	Pleuritis.
Evans, William E.	Missouri.	Enteric Fever.

NAME.	STATE OR COUNTRY.	SUBJECT OF THESIS.
Fairleigh, Robert M.	Kentucky.	Conservative Pathology.
Farnham, Horace P.	Massachusetts.	Bones of the Forearm, and their Fractures.
Ferguson, James E.	Virginia.	Syphilis.
Fischer, Albert W.	Pennsylvania.	Scarlatina.
Foster, Z. N.	Mississippi.	Bilious Remittent Fever.
Fulton, Saunders	North Carolina.	Abortion.
Gaines, John M. (M. D.)	Virginia.	Course, &c., of the Vas Deferens.
Gaither, W. W.	North Carolina.	The Doctor of Medicine.
Gano, R. Ewing	Kentucky.	Function of Reproduction.
Gibboney, S. Rush	Pennsylvania.	Gangrene.
Gordon, John	Mississippi.	Symptomatology.
Graham, Daniel McL.	North Carolina.	Diabetes Mellitus.
Greene, Frank M.	Kentucky.	Placenta Prævia.
Hagerson, Angus C.	Georgia.	Pneumonia.
Hanks, George M.	Georgia.	Yellow Jessamine.
Harris, Alonzo F.	Alabama.	Primary Syphilis.
Hatler, Morris (M. D.)	Missouri.	Typhoid Fever.
Hedgepeth, Josiah	North Carolina.	Amenorrhœa.
Henderson, C. R.	Mississippi.	Congestive Fever.
Hendry, Bowman	New Jersey.	Pneumonia.
Hereford, Thomas P., Jr.	Virginia.	Intermittent Fever.
Hoover, David W.	Pennsylvania.	Dyspepsia.
Hornback, William	Missouri.	Bilious Remittent Fever.
Hunter, Charles J.	Virginia.	Phthisis.
Hunter, George W.	Virginia.	Organs of Digestion.
Hynds, S. Houston	Tennessee.	Signs of Pregnancy.
Ingalls, P. P.	Maine.	Bronchitis.
Ingram, William A.	North Carolina.	Dysmenorrhœa.
Jackson, G. A.	Virginia.	Dysentery.
Johnson, F. F.	Illinois.	Gunshot Wounds.
Jones, John M.	Pennsylvania.	Difference between the Vegetable and Animal Kingdoms.
Jones, Montfort	Virginia.	Hernia.
Judkins, George B.	Alabama.	Compression of the Brain.
Kelley, William I.	Ohio.	Medicine as a Science and an Art.
Kerns, George M.	Georgia.	Apocynum Cannabinum, or Indian Hemp.
King, William, Jr.	Georgia.	Tonsillitis.
Knickerbocker, Boliver	Pennsylvania.	The Reparative Process.
Lackey, Benjamin F.	Tennessee.	Hernia.
Langenderfer, J. R.	New Jersey.	Scrofula.
Lester, James R.	Tennessee.	Enteric Fever.
Lever, John D. F.	South Carolina.	Erysipelas.
Lewis, Daniel W.	North Carolina.	Remittent Fever.
Loftin, James Merrill	Georgia.	Pulmonitis.
Mace, William G.	South Carolina.	Indigestion.
Mann, Augustine A.	Massachusetts.	Enteric Fever.
Mapp, John L.	Georgia.	Typhoid Fever.
Martin, Robert S. (M. D.)	Missouri.	Corn as an Antiperiodic.
Mathews, Fleming J.	Georgia.	Prolapsus Uteri.
Maynard, S. S.	Maryland.	Polypus Uteri.
McAdory, James S.	Alabama.	Inflammation.
McCullough, Joseph W.	Delaware.	Infantile Hygiene.
McHatton, A. H. (M. D.)	Missouri.	Rheumatism.
McKinney, David	Pennsylvania.	Scarlatina.
McNite, William P.	Pennsylvania.	Intermittent Fever.
Mitchell, G. W.	Pennsylvania.	Typhoid Fever.
Moffitt, William J.	Tennessee.	Function of Respiration.

NAME.	STATE OR COUNTRY.	SUBJECT OF THESIS.
Morgan, Ellington J.	Georgia.	Pneumonia.
Morris, William Wade	Virginia.	Inflammation.
Morton, Charles B.	Virginia.	Scarlatina.
Mulholland, David	Missouri.	Intermitting Fever.
Nelson, Thomas W.	Virginia.	Variola.
Nelson, William W.	Iowa.	Cholera Infantum.
Nichols, Pennock J.	Pennsylvania.	Rubeola.
Nicholson, Hugh W.	Georgia.	Retroversion of the Womb.
Norris, Alonzo	New York.	Inversio Uteri.
Owen, George A.	Virginia.	The Placenta.
Owen, W. T.	Virginia.	Delirium Tremens.
Parham, R. J.	Mississippi.	Acute Enteritis.
Perchment, Albert H.	Pennsylvania.	Enteric Fever.
Phillips, N. D.	Mississippi.	Spermatorrhœa.
Pusey, Robert B.	Kentucky.	Traumatic Tetanus.
Pyles, Newton C.	Tennessee.	Pus.
Ralston, Robert G.	Pennsylvania.	Typhoid Fever.
Roberts, George H.	Maryland.	Amenorrhœa.
Roberts, William H. H.	Georgia.	True Aims of the Physician.
Robinson, L. W.	North Carolina.	Inflammation.
Rowell, E. H.	Alabama.	Bilious Remittent Fever.
Rudisill, Benjamin F.	Georgia.	Yellow Fever.
Rushing, Greenwood	Mississippi.	Croup.
Sale, John Alexander	Virginia.	Dysentery.
Saunders, Samuel A.	Arkansas.	Typhoid Fever
Sellers, Hiram F.	Pennsylvania.	Diarrhœa.
Seydel, Arthur	Nicaragua.	Epidemic Cholera.
Shaffner, John F.	North Carolina.	Arsenic and its Compounds.
Shaw, Daniel W.	North Carolina.	Biliary Calculi.
Silvis, George W.	Pennsylvania.	Rubeola.
Sim, J. Thomas	Maryland.	Retroversio Uteri.
Spang, Frederick K.	Pennsylvania.	Veratrum Viride.
Stewart, Clayton M. (M. D.)	Illinois.	Dropsy.
Stewart, Elam L.	Illinois.	Milk Sickness.
Stuart, Robert	Kentucky.	Variola.
Taggart, John F.	Indiana.	Treatment of Pneumonia.
Tate, Thomas J.	Alabama.	Gonorrhœa.
Taylor, Daniel W.	Indiana.	The Devotee of Medicine.
Taylor, Frederick S.	New York.	Dyspepsia.
Thomas, William T.	South Carolina.	Tobacco.
Thompson, Davis	Tennessee.	Modus Operandi of Medicines.
Thompson, W. P.	Alabama.	Opium.
Tilman, J. R. (M. D.)	Indiana.	The Mind.
Tilman, Joel S.	Indiana.	Uterine Hemorrhage.
Van Buskirk, Joseph T.	Virginia.	Bilious Remittent Fever.
Walker, Fleetwood	Georgia.	Hepatitis.
Walker, Frank	Virginia.	Treatment of Inflammation.
Walker, William J.	Alabama.	Auscultation and Percussion.
Wallis, Hugh Maxwell	Maryland.	Theory and Practice of Medicine.
Wallis, Robert S. (M. D.)	Missouri.	Infantile Remittent Fever.
Warren, Llewellyn P.	North Carolina.	The Catamenial Flow, a Secretion or a Hemorrhage?
Warren, William C.	Virginia.	Amenorrhœa.
Watson, Andrew J.	Kentucky.	Dysentery.
Watts, David A.	Kentucky.	Spermatorrhœa.
Weldon, Andrew J.	Tennessee.	Pneumonitis.
Wheeler, Levi L.	Pennsylvania.	Dyspepsia.

NAME.	STATE OR COUNTRY.	SUBJECT OF THESIS.
Willcoxon, James	Georgia.	Stricture of the Urethra.
Wingo, Thomas R.	Tennessee.	Intermittent Fever.
Wood, Eason B.	Alabama.	Pneumonia.
Word, James C.	Mississippi.	Typhoid Fever.
Wright, Joseph P.	Pennsylvania.	Diagnosis of the Syphilides.
Yantis, Robert H.	Kentucky.	Blood and its Executive Duties.
Yeomans, George	Pennsylvania.	Medicine a Science.
Zacharias, J. Forney	Maryland.	Diseases of the Knee-joint.

Of the above, there are from—

Pennsylvania	25	Maryland	7	New Jersey	2
Virginia	24	South Carolina	5	New York	2
Georgia	18	Indiana	4	Louisiana	1
North Carolina	13	Ohio	3	District of Columbia	1
Alabama	11	Illinois	3	Texas	1
Tennessee	11	Florida	2	Maine	1
Mississippi	10	Delaware	2	Iowa	1
Kentucky	10	Arkansas	2	Nicaragua	1
Missouri	8	Massachusetts	2		170

HARVARD UNIVERSITY.

SUMMER SESSION OF THE MEDICAL DEPARTMENT.

The Annual Course of Summer Instruction in the Medical Department of Harvard University will commence at the Massachusetts Medical College, in North Grove Street, Boston, on Monday, March 12, 1860, and continue till November.

Clinical Medical and Surgical Instruction will be given at the Massachusetts General Hospital, adjoining the College.

Recitations from approved text-books will be held daily during the session at the College, upon all branches necessary to a medical education. Occasional lectures are also given, and demonstrations, illustrated by the Museums of the College.

During the Summer Session, instruction is given by lectures at Cambridge, on Botany, by Prof. Gray; on Comparative Anatomy, by Prof. Wyman; on Zoology, by Prof. Agassiz; on Acoustics and Optics, by Prof. Lovering. To these lectures Students of the Summer Session will be admitted without extra charge.

Good Board can be obtained at $3 or $4 per week.

Fees for the Summer Term (which must be paid in advance) $100, without extra charge for Matriculation, Hospital, Library, or Dissections; for six months, $100; for three months, $50.

D. Humphreys Storer, M. D., Professor of Obstetrics and Medical Jurisprudence.
John B. S. Jackson, M. D., Professor of Morbid Anatomy.
Henry I. Bowditch, M. D., Professor of Clinical Medicine.
Oliver W. Holmes, M. D., Professor of Anatomy and Physiology.
George C. Shattuck, M. D., Hersey Professor of Theory and Practice of Medicine.
Henry J. Bigelow, M. D., Professor of Surgery and Clinical Surgery.
John Bacon, M. D., Professor of Chemistry.
Edward H. Clarke, M. D., Professor of Materia Medica.

Richard M. Hodges, M. D., Demonstrator and Assistant in Surgery.

Wm. E. Coale, M. D., Assistant in Theory and Practice.
Calvin Ellis, M. D., Assistant in Morbid Anatomy.
James C. White, M. D., Assistant in Chemistry.
J. Nelson Borland, M. D., Assistant in Clinical Medicine.

Tickets to the Session must be procured before Students will be admitted to the Course.

D. HUMPHREYS STORER, Dean of the Faculty,
No. 132 *Tremont Street, Boston.*

*** Circulars can be obtained gratis, upon application to David Clapp, Medical and Surgical Journal Office, over 184 Washington Street, Boston.

Jan., April—2t. January 1, 1860.

PARRISH'S PHARMACY—Enlarged edition—(Just Issued.)

AN INTRODUCTION TO PRACTICAL PHARMACY.

DESIGNED AS A TEXT-BOOK FOR THE STUDENT, AND AS A GUIDE FOR THE PHYSICIAN AND PHARMACEUTIST.

WITH MANY FORMULÆ AND PRESCRIPTIONS.

BY EDWARD PARRISH,

Lecturer on Practical Pharmacy and Materia Medica in the Pennsylvania Academy of Medicine, &c.

Second edition, greatly enlarged and improved.

In one handsome octavo volume of 720 pages, with several hundred illustrations, extra cloth. $3 50.

That Edward Parrish, in writing a book upon *practical* Pharmacy some few years ago—one eminently original and unique—did the medical and pharmaceutical professions a great and valuable service, no one, we think, who has had access to its pages, will deny; doubly welcome, then, is this new edition, containing the added results of his recent and rich experience as an observer, teacher, and practical operator in the pharmaceutical laboratory. The excellent plan of the first is more thoroughly, and in detail, carried out in this edition.—*Peninsular Med. Journal*, Jan. 1860.

We know of no work on the subject which would be more indispensable to the physician or student desiring information on the subject of which it treats. With Griffith's "Medical Formulary" and this, the practising physician would be supplied with nearly or quite all the most useful information on the subject.—*Charleston Med. Journal and Review*, Jan. 1860.

This edition, now much enlarged, is one of the most useful works of the past year.—*N. O. Med. and Surg. Journal*, Jan. 1860.

The whole treatise is eminently practical; and there is no production of the kind in the English language so well adapted to the wants of the pharmaceutist and druggist. To physicians, also, it cannot fail to be highly valuable, especially to those who are obliged to prepare and compound many of their own medicines.—*N. Am. Med.-Chir. Review*, Jan. 1860.

Of course, all apothecaries who have not already a copy of the first edition will procure one of this; it is, therefore, to physicians residing in the country and in small towns, who cannot avail themselves of the skill of an educated pharmaceutist, that we would especially commend this work. In it they will find all that they desire to know, and should know, but very little of which they do really know in reference to this important collateral branch of their profession; for it is a well established fact, that, in the education of physicians, while the science of medicine is generally well taught, very little attention is paid to the art of preparing them for use, and we know not how this defect can be so well remedied as by procuring and consulting Dr. Parrish's excellent work.—*St. Louis Med. Journal*, Jan. 1860.

FLINT ON THE HEART—(Just Issued.)

A Practical Treatise on the Diagnosis, Pathology, and Treatment

OF

DISEASES OF THE HEART.

BY AUSTIN FLINT, M. D.,

Professor of Clinical Medicine, &c., in the New Orleans School of Medicine, &c.

In one neat octavo volume, of nearly 500 pages, extra cloth. $2 75.

A masterly résumé of all that is known on the subject; a safe and judicious guide for the student, and an excellent text-book for the practitioner.—*Charleston Med. Journal*, Mar. 1860.

In closing this brief notice, we can find no better way of expressing our opinion of Dr. Flint's labors, than to say that the author has a right to feel satisfied, as his readers are sure to be gratified.—*N. Y. Journal of Medicine*, Mar. 1860.

The author has treated of these morbid conditions in a masterly manner and lucid style, and has thrown around these obscure diseases a charm which is seldom found in a work of the kind. The attractive manner in which the author has treated of the symptoms and physical signs of the various lesions of the Heart and its appendages, is surpassed only by the clearness of expression of his views of their pathology, and the manner of their treatment.—*Atlanta Med. Journal*, Feb. 1860.

Every line of the work shows a skilful and experienced practitioner. He inspires confidence as he goes along in the fairness of his argument and the accuracy of his facts. This book is destined to become a standard work, one to be consulted and analyzed, not merely to be read over hastily. As deservedly high as was Dr. Flint's reputation before, it will now be enhanced by this work.—*Savannah Journal of Medicine*, Jan. 1860.

We do not know that Dr. Flint has written anything which is not first rate; but this, his latest contribution to medical literature, in our opinion, surpasses all the others. The work is most comprehensive in its scope, and most sound in the views it enunciates. The descriptions are clear and methodical; the statements are substantiated by facts, and are made with such simplicity and sincerity, that without them they would carry conviction. The style is admirably clear, direct, and free from dryness. With Dr. Walshe's excellent treatise before us, we have no hesitation in saying that Dr. Flint's book is the best work on the heart in the English language.—*Boston Med. and Surg. Journal*, Dec. 15, 1859.

We have thus endeavored to present our readers with a fair analysis of this remarkable work. Preferring to employ the very words of the distinguished author, wherever it was possible, we have essayed to condense into the briefest space a general view of his observations and suggestions, and to direct the attention of our brethren to the abounding stores of valuable matter here collected and arranged for their use and instruction. No medical library will hereafter be considered complete without this volume; and we trust it will promptly find its way into the hands of every American student and physician.—*N. Am. Med.-Chir. Review*, Jan. 1860.

GRAY'S ANATOMY—Just Issued.

ANATOMY, DESCRIPTIVE AND SURGICAL.

By HENRY GRAY, F. R. S.,
Lecturer on Anatomy at St. George's Hospital, London, &c.

The Drawings by H. V. CARTER, M. D.,
Late Demonstrator on Anatomy at St. George's Hospital.

The Dissections jointly by the Author and Dr. Carter.

In one magnificent imperial octavo volume, of nearly 800 pages, with 363 large and elaborate engravings on wood. Price, in extra cloth, $6 25; leather, raised bands, $7.

The author has endeavored in this work to cover a more extended range of subjects than is customary in the ordinary text-books, by giving not only the details necessary for the student, but also the application of those details in the practice of medicine and surgery, thus rendering it both a guide for the learner, and an admirable work of reference for the active practitioner. The engravings form a special feature in the work, many of them being the size of nature, nearly all original, and having the names of the various parts printed on the body of the cut, in place of figures of reference with descriptions at the foot. They thus form a complete and splendid series, which will greatly assist the student in obtaining a clear idea of Anatomy, and will also serve to refresh the memory of those who may find in the exigencies of practice the necessity of recalling the details of the dissecting room; while combining, as it does, a complete Atlas of Anatomy, with a thorough treatise on systematic, descriptive, and applied Anatomy, the work will be found of essential use to all physicians who receive students in their offices, relieving both preceptor and pupil of much labor in laying the groundwork of a thorough medical education.

The work before us is one entitled to the highest praise, and we accordingly welcome it as a valuable addition to medical literature. Intermediate in fulness of detail between the treatises of Sharpey and of Wilson, its characteristic merit lies in the number and excellence of the engravings it contains. Most of these are original, of much larger than ordinary size, and admirably executed. The various parts are also lettered after the plan adopted in Holden's Osteology. It would be difficult to over-estimate the advantages offered by this mode of pictorial illustration. Bones, ligaments, muscles, bloodvessels, and nerves are each in turn figured, and marked with their appropriate names; thus enabling the student to comprehend, at a glance, what would otherwise often be ignored, or, at any rate, acquired only by prolonged and irksome application. In conclusion, we heartily commend the work of Mr. Gray to the attention of the medical profession, feeling certain that it should be regarded as one of the most valuable contributions ever made to educational literature.—*N. Y. Monthly Review*, Dec. 1859.

In this view, we regard the work of Mr. Gray as far better adapted to the wants of the profession, and especially of the student, than any treatise on anatomy yet published in this country. It is destined, we believe, to supersede all others, both as a manual of dissections, and a standard of reference to the student of general or relative anatomy.—*N. Y. Journal of Medicine*, Nov. 1859.

This is by all comparison the most excellent work on Anatomy extant. It is just the thing that has been long desired by the profession. With such a guide as this, the student of anatomy, the practitioner of medicine, and the surgical devotee have all a newer, clearer, and more radiant light thrown upon the intricacies and mysteries of this wonderful science, and are thus enabled to accomplish results which hitherto seemed possible only to the specialist. The plates, which are copied from recent dissections, are so well executed, that the most superficial observer cannot fail to perceive the positions, relations, and distinctive features of the various parts, and to take in more of anatomy at a glance, than by many long hours of diligent study over the most erudite treatise, or, perhaps, at the dissecting table itself.—*Medical Journal of N. Carolina*, Oct. 1859.

For this truly admirable work the profession is indebted to the distinguished author of "Gray on the Spleen." The vacancy it fills has been long felt to exist in this country. Mr. Gray writes throughout with both branches of his subject in view. His description of each particular part is followed by a notice of its relations to the parts with which it is connected, and this, too, sufficiently ample for all the purposes of the operative surgeon. After describing the bones and muscles, he gives a concise statement of the fractures to which the bones of the extremities are most liable, together with the amount and direction of the displacement to which the fragments are subjected by muscular action. The section on arteries is remarkably full and accurate. Not only is the surgical anatomy given to every important vessel, with directions for its ligation, but at the end of the description of each arterial trunk we have a useful summary of the irregularities which may occur in its origin, course, and termination.—*N. A. Med.-Chir. Review*, Mar. 1859.

Mr. Gray's book, in excellency of arrangement and completeness of execution, exceeds any work on anatomy hitherto published in the English language, affording a complete view of the structure of the human body, with especial reference to practical surgery. Thus the volume constitutes a perfect book of reference for the practitioner, demanding a place in even the most limited library of the physician or surgeon, and a work of necessity for the student to fix in his mind what he has learned by the dissecting knife from the book of nature.—*The Dublin Quarterly Journal of Med. Sciences*, Nov. 1858.

In our judgment, the mode of illustration adopted in the present volume cannot but present many advantages to the student of anatomy. To the zealous disciple of Vesalius, earnestly desirous of real improvement, the book will certainly be of immense value; but, at the same time, we must also confess that to those simply desirous of "cramming" it will be an undoubted godsend. The peculiar value of Mr. Gray's mode of illustration is nowhere more markedly evident than in the chapter on osteology, and especially in those portions which treat of the bones of the head and of their development. The study of these parts is thus made one of comparative ease, if not of positive pleasure; and those bugbears of the student, the temporal and sphenoid bones, are shorn of half their terrors. It is, in our estimation, an admirable and complete text-book for the student, and a useful work of reference for the practitioner; its pictorial character forming a novel element, to which we have already sufficiently alluded.—*Amer. Journ. Med. Sci.*, July, 1859.

BLANCHARD & LEA'S
MEDICAL AND SURGICAL PUBLICATIONS.

TO THE MEDICAL PROFESSION.

The prices on the present catalogue are those at which our books can generally be furnished by booksellers throughout the United States, who can readily procure any which they may not have on hand. To physicians who have not convenient access to bookstores, we will forward them by mail, at these prices, *free of postage* (as long as the existing facilities are afforded by the post-office), for any distance under 3,000 miles. As we open accounts only with booksellers, the amount must in every case, without exception, accompany the order, and we assume no risks of the mail, either on the money or on the books; and as we deal only in our own publications, we can supply no others. Gentlemen desirous of purchasing will, therefore, find it more advantageous to deal with the nearest booksellers whenever practicable.

BLANCHARD & LEA.

PHILADELPHIA, February, 1860.

*** We have now ready a new edition of our ILLUSTRATED CATALOGUE of Medical and Scientific Publications, forming an octavo pamphlet of 80 large pages, containing specimens of illustrations, notices of the medical press, &c. &c. It has been prepared without regard to expense, and will be found one of the handsomest specimens of typographical execution as yet presented in this country. Copies will be sent to any address, by mail, free of postage, on receipt of nine cents in stamps.

Catalogues of our numerous publications in miscellaneous and educational literature forwarded on application.

☞ The attention of physicians is especially solicited to the following important new works and new editions, just issued or nearly ready:—

Bucknill and Tuke on Insanity, ... See page 592
Bird on Urinary Deposits, ... " 592
Condie on Diseases of Children, ... " 596
Dickson's Elements of Medicine, ... " 598
Dalton's Human Physiology, ... " 599
Erichsen's System of Surgery, ... " 602
Fownes' Manual of Chemistry, ... " 602
Flint on the Heart, ... " 603
Gross's System of Surgery (now ready), ... " 604
Gray's Anatomy, Descriptive and Surgical, ... " 605
Habershon on Alimentary Canal, ... " 606
Hamilton on Fractures and Dislocations, ... " 606
Meigs on Diseases of Women, ... " 609
Parrish's Practical Pharmacy, ... " 613
Stillé's Therapeutics and Materia Medica, ... " 615
Todd's Clinical Lectures, ... " 616
Taylor on Poisons, ... " 617
Toynbee on the Ear, ... " 617
Watson's Practice of Physic, ... " 618
Wilson's Human Anatomy, ... " 619
West on Diseases of Children . . . . . " 620

TWO MEDICAL PERIODICALS, FREE OF POSTAGE,

Containing over Fifteen Hundred large octavo pages,

FOR FIVE DOLLARS PER ANNUM.

THE AMERICAN JOURNAL OF THE MEDICAL SCIENCES, subject to postage, when not paid for in advance, - - - - - - - - $5 00

THE MEDICAL NEWS AND LIBRARY, invariably in advance, - - 1 00

OR, BOTH PERIODICALS mailed, FREE OF POSTAGE, for Five Dollars remitted in advance.

THE AMERICAN JOURNAL OF THE MEDICAL SCIENCES,

EDITED BY ISAAC HAYS, M. D.,

is published Quarterly, on the first of January, April, July, and October. Each number contains at least two hundred and eighty large octavo pages, handsomely and appropriately illustrated, wherever necessary. It has now been issued regularly for nearly FORTY years, and it has been

under the control of the present editor for more than a quarter of a century. Throughout this long period, it has maintained its position in the highest rank of medical periodicals both at home and abroad, and has received the cordial support of the entire profession in this country. Its list of Collaborators will be found to contain a large number of the most distinguished names of the profession in every section of the United States, rendering the department devoted to

ORIGINAL COMMUNICATIONS

full of varied and important matter, of great interest to all practitioners.

As the aim of the Journal, however, is to combine the advantages presented by all the different varieties of periodicals, in its

REVIEW DEPARTMENT

will be found extended and impartial reviews of all important new works, presenting subjects of novelty and interest, together with very numerous

BIBLIOGRAPHICAL NOTICES,

including nearly all the medical publications of the day, both in this country and Great Britain, with a choice selection of the more important continental works. This is followed by the

QUARTERLY SUMMARY,

being a very full and complete abstract, methodically arranged, of the

IMPROVEMENTS AND DISCOVERIES IN THE MEDICAL SCIENCES.

This department of the Journal, so important to the practising physician, is the object of especial care on the part of the editor. It is classified and arranged under different heads, thus facilitating the researches of the reader in pursuit of particular subjects, and will be found to present a very full and accurate digest of all observations, discoveries, and inventions recorded in every branch of medical science. The very extensive arrangements of the publishers are such as to afford to the editor complete materials for this purpose, as he not only regularly receives

ALL THE AMERICAN MEDICAL AND SCIENTIFIC PERIODICALS,

but also twenty or thirty of the more important Journals issued in Great Britain and on the Continent, thus enabling him to present in a convenient compass a thorough and complete abstract of everything interesting or important to the physician occurring in any part of the civilized world.

To their old subscribers, many of whom have been on their list for twenty or thirty years, the publishers feel that no promises for the future are necessary; but those who may desire for the first time to subscribe, can rest assured that no exertion will be spared to maintain the Journal in the high position which it has occupied for so long a period.

By reference to the terms it will be seen that, in addition to this large amount of valuable and practical information on every branch of medical science, the subscriber, by paying in advance, becomes entitled, without further charge, to

THE MEDICAL NEWS AND LIBRARY,

a monthly periodical of thirty-two large octavo pages. Its "News Department" presents the current information of the day, while the "Library Department" is devoted to presenting standard works on various branches of medicine. Within a few years, subscribers have thus received, without expense, many works of the highest character and practical value, such as "Watson's Practice," "Todd and Bowman's Physiology," "Maigaigne's Surgery," "West on Children," "West on Females, Part I.," "Habershon on the Alimentary Canal," &c.

While in the number for January, 1860, will be commenced a new and highly important work,

CLINICAL LECTURES ON THE DISEASES OF WOMEN.

By Professor J. Y. SIMPSON, of Edinburgh.

WITH NUMEROUS HANDSOME ILLUSTRATIONS.

These Lectures, published in England under the supervision of the Author, carry with them all the weight of his wide experience and distinguished reputation. Their eminently practical nature, and the importance of the subject treated, cannot fail to render them in the highest degree satisfactory to subscribers, who can thus secure them without cost. The present is therefore a particularly eligible time for gentlemen to commence their subscriptions.

It will thus be seen that for the small sum of FIVE DOLLARS, paid in advance, the subscriber will obtain a Quarterly and a Monthly periodical,

EMBRACING NEARLY SIXTEEN HUNDRED LARGE OCTAVO PAGES,

mailed to any part of the United States, free of postage.

Those subscribers who do not pay in advance will bear in mind that their subscription of Five Dollars will entitle them to the Journal only, without the News, and that they will be at the expense of their own postage on the receipt of each number. The advantage of a remittance when ordering the Journal will thus be apparent.

As the Medical News and Library is in no case sent without advance payment, its subscribers will always receive it free of postage.

Remittances of subscriptions can be mailed at our risk, when a certificate is taken from the Postmaster that the money is duly inclosed and forwarded.

Address BLANCHARD & LEA, Philadelphia.

ALLEN (J. M.), M. D.,

Professor of Anatomy in the Pennsylvania Medical College, &c.

THE PRACTICAL ANATOMIST; or, The Student's Guide in the Dissecting-ROOM. With 266 illustrations. In one handsome royal 12mo. volume, of over 600 pages, leather. $2 25.

In the arrangement of this work, the author has endeavored to present a complete and thorough course of dissections in a clearer and more available form for practical use, than has as yet been accomplished. The chapters follow each other in the order in which dissections are usually conducted in this country, and as each region is taken up, every detail regarding it is fully described and illustrated, so that the student is not interrupted in his labors, by the necessity of referring from one portion of the volume to another.

However valuable may be the "Dissector's Guides" which we, of late, have had occasion to notice, we feel confident that the work of Dr. Allen is superior to any of them We believe with the author, that none is so fully illustrated as this, and the arrangement of the work is such as to facilitate the labors of the student in acquiring a thorough practical knowledge of Anatomy. We most cordially recommend it to their attention.—*Western Lancet.*

We believe it to be one of the most useful works upon the subject ever written It is handsomely illustrated, well printed, and will be found of convenient size for use in the dissecting-room.—*Med. Examiner.*

From Prof. J. S. Davis, University of Va.

I am not acquainted with any work that attains so fully the object which it proposes.

From C. P. Fanner, M. D., Demonstrator, University of Michigan.

I have examined the work briefly, but even this examination has convinced me that it is an excellent guide for the Dissector. Its illustrations are beautiful, and more than I have seen in a work of this kind. I shall take great pleasure in recommending it to my classes as *the text-book of the dissecting-room.*

ANALYTICAL COMPENDIUM

OF MEDICAL SCIENCE, containing Anatomy, Physiology, Surgery, Midwifery, Chemistry, Materia Medica, Therapeutics, and Practice of Medicine. By JOHN NEILL, M. D., and F. G SMITH, M. D. New and enlarged edition, one thick volume royal 12mo. of over 1000 pages, with 374 illustrations. $3 00. ☞ See NEILL, p. 24.

ABEL (F. A.), F. C. S. AND C. L. BLOXAM.

HANDBOOK OF CHEMISTRY, Theoretical, Practical, and Technical; with a Recommendatory Preface by Dr. HOFMANN. In one large octavo volume, extra cloth, of 662 pages, with illustrations. $3 25.

ASHWELL (SAMUEL), M. D.,

Obstetric Physician and Lecturer to Guy's Hospital, London.

A PRACTICAL TREATISE ON THE DISEASES PECULIAR TO WOMEN.

Illustrated by Cases derived from Hospital and Private Practice. Third American, from the Third and revised London edition. In one octavo volume, extra cloth, of 528 pages. $3 00.

The most useful practical work on the subject in the English language.—*Boston Med. and Surg. Journal.*

The most able, and certainly the most standard and practical, work on female diseases that we have yet seen.—*Medico-Chirurgical Review.*

ARNOTT (NEILL), M. D.

ELEMENTS OF PHYSICS; or Natural Philosophy, General and Medical.

Written for universal use, in plain or non-technical language. A new edition, by ISAAC HAYS, M. D. Complete in one octavo volume, leather, of 484 pages, with about two hundred illustrations. $2 50.

BUDD (GEORGE), M. D., F. R. S.,

Professor of Medicine in King's College, London.

ON DISEASES OF THE LIVER. Third American, from the third and enlarged London edition. In one very handsome octavo volume, extra cloth, with four beautifully colored plates, and numerous wood-cuts. pp. 500. $3 00.

Has fairly established for itself a place among the classical medical literature of England.—*British and Foreign Medico-Chir. Review*, July, 1857.

Dr. Budd's Treatise on Diseases of the Liver is now a standard work in Medical literature, and during the intervals which have elapsed between the successive editions, the author has incorporated into the text the most striking novelties which have characterized the recent progress of hepatic physiology and pathology, so that although the size of the book is not perceptibly changed, the history of liver diseases is made more complete, and is kept upon a level with the progress of modern science. It is the best work on Diseases of the Liver in any language.—*London Med. Times and Gazette*, June 27, 1857.

This work, now the standard book of reference on the diseases of which it treats, has been carefully revised, and many new illustrations of the views of the learned author added in the present edition.—*Dublin Quarterly Journal*, Aug. 1857.

BY THE SAME AUTHOR.

ON THE ORGANIC DISEASES AND FUNCTIONAL DISORDERS OF THE STOMACH. In one neat octavo volume, extra cloth. $1 50.

From the high position occupied by Dr. Budd as a teacher, a writer, and a practitioner, it is almost needless to state that the present book may be consulted with great advantage. It is written in an easy style, the subjects are well arranged, and the practical precepts, both of diagnosis and treatment, denote the character of a thoughtful and experienced physician.—*London Med. Times and Gazette.*

BUCKNILL (J. C.), M. D.,

Medical Superintendent of the Devon County Lunatic Asylum; and

DANIEL H. TUKE, M. D.,

Visiting Medical Officer to the York Retreat.

A MANUAL OF PSYCHOLOGICAL MEDICINE; containing the History, Nosology, Description, Statistics, Diagnosis, Pathology, and Treatment of INSANITY. With a Plate. In one handsome octavo volume, of 536 pages. $3 00.

The increase of mental disease in its various forms, and the difficult questions to which it is constantly giving rise, render the subject one of daily enhanced interest, requiring on the part of the physician a constantly greater familiarity with this, the most perplexing branch of his profession. At the same time there has been for some years no work accessible in this country, presenting the results of recent investigations in the Diagnosis and Prognosis of Insanity, and the greatly improved methods of treatment which have done so much in alleviating the condition or restoring the health of the insane. To fill this vacancy the publishers present this volume, assured that the distinguished reputation and experience of the authors will entitle it at once to the confidence of both student and practitioner. Its scope may be gathered from the declaration of the authors that "their aim has been to supply a text book which may serve as a guide in the acquisition of such knowledge, sufficiently elementary to be adapted to the wants of the student, and sufficiently modern in its views and explicit in its teaching to suffice for the demands of the practitioner."

BENNETT (J. HUGHES), M. D., F. R. S. E.,

Professor of Clinical Medicine in the University of Edinburgh, &c.

THE PATHOLOGY AND TREATMENT OF PULMONARY TUBERCULOSIS, and on the Local Medication of Pharyngeal and Laryngeal Diseases frequently mistaken for or associated with, Phthisis. One vol. 8vo., extra cloth, with wood-cuts. pp. 130. $1 25.

BENNETT (HENRY), M. D.

A PRACTICAL TREATISE ON INFLAMMATION OF THE UTERUS, ITS CERVIX AND APPENDAGES, and on its connection with Uterine Disease. To which is added, a Review of the present state of Uterine Pathology. Fifth American, from the third English edition. In one octavo volume, of about 500 pages, extra cloth. $2 00. (*Now Ready.*)

The ill health of the author having prevented the promised revision of this work, the present edition is a reprint of the last, without alteration. As the volume has been for some time out of print, gentlemen desiring copies can now procure them.

BIRD (GOLDING), A. M., M. D., &c.

URINARY DEPOSITS: THEIR DIAGNOSIS, PATHOLOGY, AND THERAPEUTICAL INDICATIONS. Edited by EDMUND LLOYD BIRKETT, M. D. A new American, from the fifth and enlarged London edition. With eighty illustrations on wood. In one handsome octavo volume, of about 400 pages, extra cloth. $2 00. (*Now Ready*, June, 1859.)

The death of Dr. Bird has rendered it necessary to entrust the revision of the present edition to other hands, and in his performance of the duty thus devolving on him, Dr. Birkett has sedulously endeavored to carry out the author's plan by introducing such new matter and modifications of the text as the progress of science has called for. Notwithstanding the utmost care to keep the work within a reasonable compass, these additions have resulted in a considerable enlargement. It is, therefore, hoped that it will be found fully up to the present condition of the subject, and that the reputation of the volume as a clear, complete, and compendious manual, will be fully maintained.

It can scarcely be necessary for us to say anything of the merits of this well-known Treatise, which so admirably brings into practical application the results of those microscopical and chemical researches regarding the physiology and pathology of the urinary secretion, which have contributed so much to the increase of our diagnostic powers, and to the extension and satisfactory employment of our therapeutic resources.—*The British and Foreign Medico-Chirurgical Review.*

BOWMAN (JOHN E.), M. D.

PRACTICAL HANDBOOK OF MEDICAL CHEMISTRY. Second American, from the third and revised English Edition. In one neat volume, royal 12mo., extra cloth, with numerous illustrations. pp. 288. $1 25.

BY THE SAME AUTHOR.

INTRODUCTION TO PRACTICAL CHEMISTRY, INCLUDING ANALYSIS. Second American, from the second and revised London edition. With numerous illustrations. In one neat vol., royal 12mo., extra cloth. pp. 350. $1 25.

BEALE ON THE LAWS OF HEALTH IN RELATION TO MIND AND BODY. A Series of Letters from an old Practitioner to a Patient. In one volume, royal 12mo., extra cloth. pp. 296. 80 cents.

BUSHNAN'S PHYSIOLOGY OF ANIMAL AND VEGETABLE LIFE; a Popular Treatise on the Functions and Phenomena of Organic Life. In one handsome royal 12mo. volume, extra cloth, with over 100 illustrations. pp. 234. 80 cents.

BUCKLER ON THE ETIOLOGY, PATHOLOGY, AND TREATMENT OF FIBRO-BRONCHITIS AND RHEUMATIC PNEUMONIA. In one 8vo. volume, extra cloth. pp. 150. $1 25.

BLOOD AND URINE (MANUALS ON). BY JOHN WILLIAM GRIFFITH, G. OWEN REESE, AND ALFRED MARKWICK. One thick volume, royal 12mo., extra cloth, with plates. pp. 460. $1 25.

BRODIE'S CLINICAL LECTURES ON SURGERY. 1 vol. 8vo. cloth. 360 pp. $1 25.

BARCLAY (A. W.) M. D.,

Assistant Physician to St. George's Hospital, &c.

A MANUAL OF MEDICAL DIAGNOSIS; being an Analysis of the Signs and Symptoms of Disease. In one neat octavo volume, extra cloth, of 424 pages. $2 00. (*Lately issued.*)

Of works exclusively devoted to this important branch, our profession has at command, comparatively, but few, and, therefore, in the publication of the present work, Messrs. Blanchard & Lea have conferred a great favor upon us. Dr. Barclay, from having occupied, for a long period, the position of Medical Registrar at St. George's Hospital, possessed advantages for correct observation and reliable conclusions, as to the significance of symptoms, which have fallen to the lot of but few, either in his own or any other country. He has carefully systematized the results of his observation of over twelve thousand patients, and by his diligence and judicious classification, the profession has been presented with the most convenient and reliable work on the subject of Diagnosis that it has been our good fortune ever to examine; we can, therefore, say of Dr. Barclay's work, that, from his systematic manner of arrangement, his work is one of the best works "for reference" in the daily emergencies of the practitioner, with which we are acquainted; but, at the same time, we would recommend our readers, especially the younger ones, to read thoroughly and study diligently the *whole* work, and the "emergencies" will not occur so often.—*Southern Med. and Surg. Journ.*, March, 1858.

To give this information, to supply this admitted deficiency, is the object of Dr. Barclay's Manual. The task of composing such a work is neither an easy nor a light one; but Dr. Barclay has performed it in a manner which meets our most unqualified approbation. He is no mere theorist; he knows his work thoroughly, and in attempting to perform it, has not exceeded his powers.—*British Med. Journal*, Dec. 5, 1857.

We venture to predict that the work will be deservedly popular, and soon become, like Watson's Practice, an indispensable necessity to the practitioner.—*N. A. Med. Journal*, April, 1858.

An inestimable work of reference for the young practitioner and student.—*Nashville Med. Journal*, May, 1858.

We hope the volume will have an extensive circulation, not among students of medicine only, but practitioners also. They will never regret a faithful study of its pages.—*Cincinnati Lancet*, Mar. '58.

This Manual of Medical Diagnosis is one of the most scientific, useful, and instructive works of its kind that we have ever read, and Dr. Barclay has done good service to medical science in collecting, arranging, and analyzing the signs and symptoms of so many diseases.—*N. J. Med. and Surg. Reporter*, March, 1858.

BARLOW (GEORGE H.), M. D.

Physician to Guy's Hospital, London, &c.

A MANUAL OF THE PRACTICE OF MEDICINE. With Additions by D. F. Condie, M. D., author of "A Practical Treatise on Diseases of Children," &c. In one handsome octavo volume, leather, of over 600 pages. $2 75.

We recommend Dr. Barlow's Manual in the warmest manner as a most valuable vade-mecum. We have had frequent occasion to consult it, and have found it clear, concise, practical, and sound. It is eminently a practical work, containing all that is essential, and avoiding useless theoretical discussion. The work supplies what has been for some time wanting, a manual of practice based upon modern discoveries in pathology and rational views of treatment of disease. It is especially intended for the use of students and junior practitioners, but it will be found hardly less useful to the experienced physician. The American editor has added to the work three chapters—on Cholera Infantum, Yellow Fever, and Cerebro-spinal Meningitis. These additions, the two first of which are indispensable to a work on practice destined for the profession in this country, are executed with great judgment and fidelity, by Dr. Condie, who has also succeeded happily in imitating the conciseness and clearness of style which are such agreeable characteristics of the original book.—*Boston Med. and Surg. Journal.*

BARTLETT (ELISHA), M. D.

THE HISTORY, DIAGNOSIS, AND TREATMENT OF THE FEVERS OF THE UNITED STATES. A new and revised edition. By Alonzo Clark, M. D., Prof. of Pathology and Practical Medicine in the N. Y. College of Physicians and Surgeons, &c. In one octavo volume, of six hundred pages, extra cloth. Price $3 00.

It is the best work on fevers which has emanated from the American press, and the present editor has carefully availed himself of all information existing upon the subject in the Old and New World, so that the doctrines advanced are brought down to the latest date in the progress of this department of Medical Science.—*London Med. Times and Gazette*, May 2, 1857.

This excellent monograph on febrile disease, has stood deservedly high since its first publication. It will be seen that it has now reached its fourth edition under the supervision of Prof. A. Clark, a gentleman who, from the nature of his studies and pursuits, is well calculated to appreciate and discuss the many intricate and difficult questions in pathology. His annotations add much to the interest of the work, and have brought it well up to the condition of the science as it exists at the present day in regard to this class of diseases.—*Southern Med. and Surg. Journal*, Mar. 1857.

It is a work of great practical value and interest, containing much that is new relative to the several diseases of which it treats, and, with the additions of the editor, is fully up to the times. The distinctive features of the different forms of fever are plainly and forcibly portrayed, and the lines of demarcation carefully and accurately drawn, and to the American practitioner is a more valuable and safe guide than any work on fever extant.—*Ohio Med. and Surg Journal*, May, 1857.

BROWN (ISAAC BAKER),

Surgeon-Accoucheur to St. Mary's Hospital, &c.

ON SOME DISEASES OF WOMEN ADMITTING OF SURGICAL TREATMENT. With handsome illustrations. One vol. 8vo., extra cloth, pp. 276. $1 60.

Mr. Brown has earned for himself a high reputation in the operative treatment of sundry diseases and injuries to which females are peculiarly subject. We can truly say of his work that it is an important addition to obstetrical literature. The operative suggestions and contrivances which Mr. Brown describes, exhibit much practical sagacity and skill, and merit the careful attention of every surgeon-accoucheur.—*Association Journal.*

We have no hesitation in recommending this book to the careful attention of all surgeons who make female complaints a part of their study and practice. —*Dublin Quarterly Journal.*

CARPENTER (WILLIAM B.), M. D., F. R. S., &c.,

Examiner in Physiology and Comparative Anatomy in the University of London.

PRINCIPLES OF HUMAN PHYSIOLOGY; with their chief applications to Psychology, Pathology, Therapeutics, Hygiene, and Forensic Medicine. A new American, from the last and revised London edition. With nearly three hundred illustrations. Edited, with additions, by FRANCIS GURNEY SMITH, M. D., Professor of the Institutes of Medicine in the Pennsylvania Medical College, &c. In one very large and beautiful octavo volume, of about nine hundred large pages, handsomely printed and strongly bound in leather, with raised bands. $4 25.

In the preparation of this new edition, the author has spared no labor to render it, as heretofore, a complete and lucid exposition of the most advanced condition of its important subject. The amount of the additions required to effect this object thoroughly, joined to the former large size of the volume, presenting objections arising from the unwieldy bulk of the work, he has omitted all those portions not bearing directly upon HUMAN PHYSIOLOGY, designing to incorporate them in his forthcoming Treatise on GENERAL PHYSIOLOGY. As a full and accurate text-book on the Physiology of Man, the work in its present condition therefore presents even greater claims upon the student and physician than those which have heretofore won for it the very wide and distinguished favor which it has so long enjoyed. The additions of Prof. Smith will be found to supply whatever may have been wanting to the American student, while the introduction of many new illustrations, and the most careful mechanical execution, render the volume one of the most attractive as yet issued.

For upwards of thirteen years Dr. Carpenter's work has been considered by the profession generally, both in this country and England, as the most valuable compendium on the subject of physiology in our language. This distinction it owes to the high attainments and unwearied industry of its accomplished author. The present edition (which, like the last American one, was prepared by the author himself), is the result of such extensive revision, that it may almost be considered a new work. We need hardly say, in concluding this brief notice, that while the work is indispensable to every student of medicine in this country, it will amply repay the practitioner for its perusal by the interest and value of its contents.—*Boston Med and Surg. Journal.*

This is a standard work—the text-book used by all medical students who read the English language. It has passed through several editions in order to keep pace with the rapidly growing science of Physiology. Nothing need be said in its praise, for its merits are universally known; we have nothing to say of its defects, for they only appear where the science of which it treats is incomplete.—*Western Lancet.*

The most complete exposition of physiology which any language can at present give.—*Brit and For. Med.-Chirurg. Review.*

The greatest, the most reliable, and the best book on the subject which we know of in the English language.—*Stethoscope.*

To eulogize this great work would be superfluous. We should observe, however, that in this edition the author has remodelled a large portion of the former, and the editor has added much matter of interest, especially in the form of illustrations. We may confidently recommend it as the most complete work on Human Physiology in our language.—*Southern Med. and Surg. Journal.*

The most complete work on the science in our language.—*Am. Med. Journal.*

The most complete work now extant in our language.—*N. O. Med. Register.*

The best text-book in the language on this extensive subject.—*London Med. Times.*

A complete cyclopædia of this branch of science.—*N. Y. Med. Times.*

The profession of this country, and perhaps also of Europe, have anxiously and for some time awaited the announcement of this new edition of Carpenter's Human Physiology. His former editions have for many years been almost the only text-book on Physiology in all our medical schools, and its circulation among the profession has been unsurpassed by any work in any department of medical science.

It is quite unnecessary for us to speak of this work as its merits would justify. The mere announcement of its appearance will afford the highest pleasure to every student of Physiology, while its perusal will be of infinite service in advancing physiological science.—*Ohio Med. and Surg. Journ.*

BY THE SAME AUTHOR.

PRINCIPLES OF COMPARATIVE PHYSIOLOGY. New American, from the Fourth and Revised London edition. In one large and handsome octavo volume, with over three hundred beautiful illustrations. pp. 752. Extra cloth, $4 50; leather, raised bands, $5 25.

The delay which has existed in the appearance of this work has been caused by the very thorough revision and remodelling which it has undergone at the hands of the author, and the large number of new illustrations which have been prepared for it. It will, therefore, be found almost a new work, and fully up to the day in every department of the subject, rendering it a reliable text-book for all students engaged in this branch of science. Every effort has been made to render its typographical finish and mechanical execution worthy of its exalted reputation, and creditable to the mechanical arts of this country.

This book should not only be read but thoroughly studied by every member of the profession. None are too wise or old, to be benefited thereby. But especially to the younger class would we cordially commend it as best fitted of any work in the English language to qualify them for the reception and comprehension of those truths which are daily being developed in physiology.—*Medical Counsellor.*

Without pretending to it, it is an encyclopedia of the subject, accurate and complete in all respects—a truthful reflection of the advanced state at which the science has now arrived.—*Dublin Quarterly Journal of Medical Science.*

A truly magnificent work—in itself a perfect physiological study.—*Ranking's Abstract.*

This work stands without its fellow. It is one few men in Europe could have undertaken; it is one no man, we believe, could have brought to so successful an issue as Dr. Carpenter. It required for its production a physiologist at once deeply read in the labors of others, capable of taking a general, critical, and unprejudiced view of those labors and of combining the varied, heterogeneous materials at his disposal, so as to form an harmonious whole. We feel that this abstract can give the reader a very imperfect idea of the fulness of this work, and no idea of its unity, of the admirable manner in which material has been brought, from the most various sources, to conduce to its completeness, of the lucidity of the reasoning it contains, or of the clearness of language in which the whole is clothed. Not the profession only, but the scientific world at large, must feel deeply indebted to Dr. Carpenter for this great work. It must, indeed, add largely even to his high reputation.—*Medical Times.*

CARPENTER (WILLIAM B.), M. D., F. R. S.,

Examiner in Physiology and Comparative Anatomy in the University of London.

THE MICROSCOPE AND ITS REVELATIONS.

With an Appendix containing the Applications of the Microscope to Clinical Medicine, &c. By F. G. SMITH, M. D. Illustrated by four hundred and thirty-four beautiful engravings on wood. In one large and very handsome octavo volume, of 724 pages, extra cloth, $4 00; leather, $4 50.

Dr. Carpenter's position as a microscopist and physiologist, and his great experience as a teacher, eminently qualify him to produce what has long been wanted—a good text-book on the practical use of the microscope. In the present volume his object has been, as stated in his Preface, "to combine, within a moderate compass, that information with regard to the use of his 'tools,' which is most essential to the working microscopist, with such an account of the objects best fitted for his study, as might qualify him to comprehend what he observes, and might thus prepare him to benefit science, whilst expanding and refreshing his own mind" That he has succeeded in accomplishing this, no one acquainted with his previous labors can doubt.

The great importance of the microscope as a means of diagnosis, and the number of microscopists who are also physicians, have induced the American publishers, with the author's approval, to add an Appendix, carefully prepared by Professor Smith, on the applications of the instrument to clinical medicine, together with an account of American Microscopes, their modifications and accessories. This portion of the work is illustrated with nearly one hundred wood-cuts, and, it is hoped, will adapt the volume more particularly to the use of the American student.

Every care has been taken in the mechanical execution of the work, which is confidently presented as in no respect inferior to the choicest productions of the London press.

The mode in which the author has executed his intentions may be gathered from the following condensed synopsis of the

CONTENTS.

INTRODUCTION—History of the Microscope. CHAP. I. Optical Principles of the Microscope. CHAP. II. Construction of the Microscope. CHAP. III. Accessory Apparatus. CHAP. IV. Management of the Microscope CHAP. V. Preparation, Mounting, and Collection of Objects. CHAP. VI. Microscopic Forms of Vegetable Life—Protophytes. CHAP. VII. Higher Cryptogamia. CHAP. VIII. Phanerogamic Plants. CHAP. IX. Microscopic Forms of Animal Life—Protozoa—Animalcules. CHAP. X. Foraminifera, Polycystina, and Sponges. CHAP. XI. Zoophytes. CHAP. XII. Echinodermata. CHAP. XIII. Polyzoa and Compound Tunicata. CHAP. XIV. Molluscous Animals Generally. CHAP. XV. Annulosa. CHAP. XVI. Crustacea. CHAP. XVII. Insects and Arachnida. CHAP. XVIII. Vertebrated Animals. CHAP. XIX. Applications of the Microscope to Geology. CHAP. XX. Inorganic or Mineral Kingdom—Polarization. APPENDIX. Microscope as a means of Diagnosis—Injections—Microscopes of American Manufacture.

Those who are acquainted with Dr. Carpenter's previous writings on Animal and Vegetable Physiology, will fully understand how vast a store of knowledge he is able to bring to bear upon so comprehensive a subject as the revelations of the microscope; and even those who have no previous acquaintance with the construction or uses of this instrument, will find abundance of information conveyed in clear and simple language.—*Med. Times and Gazette.*

Although originally not intended as a strictly medical work, the additions by Prof. Smith give it a positive claim upon the profession, for which we doubt not he will receive their sincere thanks. Indeed, we know not where the student of medicine will find such a complete and satisfactory collection of microscopic facts bearing upon physiology and practical medicine as is contained in Prof. Smith's appendix; and this of itself, it seems to us, is fully worth the cost of the volume.—*Louisville Medical Review*, Nov. 1856.

BY THE SAME AUTHOR.

ELEMENTS (OR MANUAL) OF PHYSIOLOGY, INCLUDING PHYSIOLOGICAL ANATOMY.

Second American, from a new and revised London edition. With one hundred and ninety illustrations. In one very handsome octavo volume, leather. pp. 566. $3 00.

In publishing the first edition of this work, its title was altered from that of the London volume, by the substitution of the word "Elements" for that of "Manual," and with the author's sanction the title of "Elements" is still retained as being more expressive of the scope of the treatise.

To say that it is the best manual of Physiology now before the public, would not do sufficient justice to the author.—*Buffalo Medical Journal.*

In his former works it would seem that he had exhausted the subject of Physiology. In the present, he gives the essence, as it were, of the whole.—*N. Y. Journal of Medicine.*

Those who have occasion for an elementary treatise on Physiology, cannot do better than to possess themselves of the manual of Dr. Carpenter.—*Medical Examiner.*

The best and most complete exposé of modern Physiology, in one volume, extant in the English language.—*St. Louis Medical Journal.*

BY THE SAME AUTHOR. (*Preparing.*)

PRINCIPLES OF GENERAL PHYSIOLOGY, INCLUDING ORGANIC CHEMISTRY AND HISTOLOGY.

With a General Sketch of the Vegetable and Animal Kingdom. In one large and very handsome octavo volume, with several hundred illustrations.

The subject of general physiology having been omitted in the last editions of the author's "Comparative Physiology" and "Human Physiology," he has undertaken to prepare a volume which shall present it more thoroughly and fully than has yet been attempted, and which may be regarded as an introduction to his other works.

BY THE SAME AUTHOR.

A PRIZE ESSAY ON THE USE OF ALCOHOLIC LIQUORS IN HEALTH AND DISEASE.

New edition, with a Preface by D. F. CONDIE, M. D., and explanations of scientific words. In one neat 12mo. volume, extra cloth. pp. 178. 50 cents.

CONDIE (D. F.), M. D., &c.

A PRACTICAL TREATISE ON THE DISEASES OF CHILDREN. Fifth

edition, revised and augmented. In one large volume, 8vo., leather, of over 750 pages. $3 25. (*Now Ready*, 1859.)

In presenting a new and revised edition of this favorite work, the publishers have only to state that the author has endeavored to render it in every respect "a complete and faithful exposition of the pathology and therapeutics of the maladies incident to the earlier stages of existence—a full and exact account of the diseases of infancy and childhood." To accomplish this he has subjected the whole work to a careful and thorough revision, rewriting a considerable portion, and adding several new chapters. In this manner it is hoped that any deficiencies which may have previously existed have been supplied, that the recent labors of practitioners and observers have been thoroughly incorporated, and that in every point the work will be found to maintain the high reputation it has enjoyed as a complete and thoroughly practical book of reference in infantile affections.

A few notices of previous editions are subjoined.

Dr. Condie's scholarship, acumen, industry, and practical sense are manifested in this, as in all his numerous contributions to science.—*Dr. Holmes's Report to the American Medical Association.*

Taken as a whole, in our judgment, Dr. Condie's Treatise is the one from the perusal of which the practitioner in this country will rise with the greatest satisfaction.—*Western Journal of Medicine and Surgery.*

One of the best works upon the Diseases of Children in the English language.—*Western Lancet.*

We feel assured from actual experience that no physician's library can be complete without a copy of this work.—*N. Y. Journal of Medicine.*

A veritable pædiatric encyclopædia, and an honor to American medical literature.—*Ohio Medical and Surgical Journal.*

We feel persuaded that the American medical profession will soon regard it not only as a very good, but as the VERY BEST "Practical Treatise on the Diseases of Children."—*American Medical Journal.*

In the department of infantile therapeutics, the work of Dr. Condie is considered one of the best which has been published in the English language.—*The Stethoscope.*

We pronounced the first edition to be the best work on the diseases of children in the English language, and, notwithstanding all that has been published, we still regard it in that light.—*Medical Examiner.*

The value of works by native authors on the diseases which the physician is called upon to combat, will be appreciated by all; and the work of Dr. Condie has gained for itself the character of a safe guide for students, and a useful work for consultation by those engaged in practice.—*N. Y. Med. Times.*

This is the fourth edition of this deservedly popular treatise. During the interval since the last edition, it has been subjected to a thorough revision by the author; and all new observations in the pathology and therapeutics of children have been included in the present volume. As we said before, we do not know of a better book on diseases of children, and to a large part of its recommendations we yield an unhesitating concurrence.—*Buffalo Med. Journal.*

Perhaps the most full and complete work now before the profession of the United States; indeed, we may say in the English language. It is vastly superior to most of its predecessors.—*Transylvania Med. Journal.*

CHRISTISON (ROBERT), M. D., V. P. R. S. E., &c.

A DISPENSATORY; or, Commentary on the Pharmacopœias of Great Britain

and the United States; comprising the Natural History, Description, Chemistry, Pharmacy, Actions, Uses, and Doses of the Articles of the Materia Medica. Second edition, revised and improved, with a Supplement containing the most important New Remedies. With copious Additions, and two hundred and thirteen large wood-engravings. By R. EGLESFELD GRIFFITH, M. D. In one very large and handsome octavo volume, leather, raised bands, of over 1000 pages. $3 50.

COOPER (BRANSBY B.), F. R. S.

LECTURES ON THE PRINCIPLES AND PRACTICE OF SURGERY.

In one very large octavo volume, extra cloth, of 750 pages. $3 00.

COOPER ON DISLOCATIONS AND FRACTURES OF THE JOINTS.—Edited by BRANSBY B. COOPER, F. R. S., &c. With additional Observations by Prof. J. C. WARREN. A new American edition. In one handsome octavo volume, extra cloth, of about 500 pages, with numerous illustrations on wood. $3 25.

COOPER ON THE ANATOMY AND DISEASES OF THE BREAST, with twenty-five Miscellaneous and Surgical Papers. One large volume, imperial 8vo., extra cloth, with 252 figures, on 36 plates. $2 50.

COOPER ON THE STRUCTURE AND DISEASES OF THE TESTIS, AND ON THE THYMUS GLAND. One vol. imperial 8vo., extra cloth, with 177 figures on 29 plates. $2 00.

COPLAND ON THE CAUSES, NATURE, AND TREATMENT OF PALSY AND APOPLEXY. In one volume, royal 12mo., extra cloth. pp. 326. 60 cents.

CLYMER ON FEVERS; THEIR DIAGNOSIS, PATHOLOGY, AND TREATMENT In one octavo volume, leather, of 600 pages. $1 50.

COLOMBAT DE L'ISERE ON THE DISEASES OF FEMALES, and on the special Hygiene of their Sex. Translated, with many Notes and Additions, by C. D. MEIGS, M. D. Second edition, revised and improved. In one large volume, octavo, leather, with numerous wood-cuts. pp. 720. $3 50.

CARSON (JOSEPH), M. D.,

Professor of Materia Medica and Pharmacy in the University of Pennsylvania.

SYNOPSIS OF THE COURSE OF LECTURES ON MATERIA MEDICA AND PHARMACY,

delivered in the University of Pennsylvania. Second and revised edition. In one very neat octavo volume, extra cloth, of 208 pages. $1 50.

CURLING (T. B.), F. R. S.,

Surgeon to the London Hospital, President of the Hunterian Society, &c.

A PRACTICAL TREATISE ON DISEASES OF THE TESTIS, SPERMATIC CORD, AND SCROTUM.

Second American, from the second and enlarged English edition. In one octavo volume, extra cloth, with numerous illustrations. pp. 420. $2 00.

CHURCHILL (FLEETWOOD), M. D., M. R. I. A.

ON THE THEORY AND PRACTICE OF MIDWIFERY.

Edited, with Notes and Additions, by D. Francis Condie, M. D., author of a "Practical Treatise on the Diseases of Children," &c. With 139 illustrations. In one very handsome octavo volume, leather. pp. 510. $3 00.

To bestow praise on a book that has received such marked approbation would be superfluous. We need only say, therefore, that if the first edition was thought worthy of a favorable reception by the medical public, we can confidently affirm that this will be found much more so. The lecturer, the practitioner, and the student, may all have recourse to its pages, and derive from their perusal much interest and instruction in everything relating to theoretical and practical midwifery.—*Dublin Quarterly Journal of Medical Science.*

A work of very great merit, and such as we can confidently recommend to the study of every obstetric practitioner.—*London Medical Gazette.*

This is certainly the most perfect system extant. It is the best adapted for the purposes of a text-book, and that which he whose necessities confine him to one book, should select in preference to all others.—*Southern Medical and Surgical Journal.*

The most popular work on midwifery ever issued from the American press.—*Charleston Med. Journal.*

Were we reduced to the necessity of having but *one* work on midwifery, and *permitted to choose*, we would unhesitatingly take Churchill.—*Western Med. and Surg. Journal.*

It is impossible to conceive a more useful and elegant manual than Dr. Churchill's Practice of Midwifery.—*Provincial Medical Journal.*

Certainly, in our opinion, the very best work on the subject which exists.—*N. Y. Annalist.*

No work holds a higher position, or is more deserving of being placed in the hands of the tyro, the advanced student, or the practitioner.—*Medical Examiner.*

Previous editions, under the editorial supervision of Prof R. M. Huston, have been received with marked favor, and they deserved it; but this, reprinted from a very late Dublin edition, carefully revised and brought up by the author to the present time, does present an unusually accurate and able exposition of every important particular embraced in the department of midwifery. * * The clearness, directness, and precision of its teachings, together with the great amount of statistical research which its text exhibits, have served to place it already in the foremost rank of works in this department of remedial science.—*N. O. Med. and Surg. Journal.*

In our opinion, it forms one of the best if not the very best text-book and epitome of obstetric science which we at present possess in the English language.—*Monthly Journal of Medical Science.*

The clearness and precision of style in which it is written, and the great amount of statistical research which it contains, have served to place it in the first rank of works in this department of medical science.—*N. Y. Journal of Medicine.*

Few treatises will be found better adapted as a text-book for the student, or as a manual for the frequent consultation of the young practitioner.—*American Medical Journal.*

BY THE SAME AUTHOR. (*Lately Published.*)

ON THE DISEASES OF INFANTS AND CHILDREN.

Second American Edition, revised and enlarged by the author. Edited, with Notes, by W. V. Keating, M. D. In one large and handsome volume, extra cloth, of over 700 pages. $3 00, or in leather, $3 25.

In preparing this work a second time for the American profession, the author has spared no labor in giving it a very thorough revision, introducing several new chapters, and rewriting others, while every portion of the volume has been subjected to a severe scrutiny. The efforts of the American editor have been directed to supplying such information relative to matters peculiar to this country as might have escaped the attention of the author, and the whole may, therefore, be safely pronounced one of the most complete works on the subject accessible to the American Profession. By an alteration in the size of the page, these very extensive additions have been accommodated without unduly increasing the size of the work.

This work contains a vast amount of interesting matter, which is so well arranged and so curtly worded that the book may be regarded as an encyclopædia of information upon the subject of which it treats. It is certainly also a monument of Dr. Churchill's untiring industry, inasmuch as there is not a single work upon the diseases of children with which we are acquainted that is not fully referred to and quoted from in its pages, and scarcely a contribution of the least importance to any British or Foreign Medical Journal, for some years past, which is not duly noticed.—*London Lancet*, Feb. 20, 1858.

Availing himself of every fresh source of information, Dr. Churchill endeavored, with his accustomed industry and perseverance, to bring his work up to the present state of medical knowledge in all the subjects of which it treats; and in this endeavor he has, we feel bound to say, been eminently successful. Besides the addition of more than one hundred and thirty pages of matter, we observe that some entirely new and important chapters are introduced, viz: on paralysis, syphilis, phthisis, sclerema, &c. &c. As the work now stands, it is, we believe, the most comprehensive in the English language upon the diseases incident to early life.—*Dublin Quarterly Journal*, Feb. 1858.

It brings before the reader an amount of information not comprised in any similar production in the language. The amount of labor consumed upon its production can only be conceived by those who have been similarly occupied, every work of note published within the last twenty-five years in the different languages of Europe having been laid under contribution for the illustration of its topics. The material thus derived has been used with consummate skill, and the result has been a work creditable alike to the author and his country.—*N. A. Medico-Chir. Review*, May, 1858.

After this meagre, and we know, very imperfect notice of Dr. Churchill's work, we shall conclude by saying, that it is one that cannot fail from its copiousness, extensive research, and general accuracy, to exalt still higher the reputation of the author in this country. The American reader will be particularly pleased to find that Dr. Churchill has done full justice throughout his work to the various American authors on this subject. The names of Dewees, Eberle, Condie, and Stewart, occur on nearly every page, and these authors are constantly referred to by the author in terms of the highest praise, and with the most liberal courtesy.—*The Medical Examiner.*

We recommend the work of Dr. Churchill most cordially, both to students and practitioners, as a valuable and reliable guide in the treatment of the diseases of children.—*Am. Journ. of the Med. Sciences.*

We know of no work on this department of Practical Medicine which presents so candid and unprejudiced a statement or posting up of our actual knowledge as this.—*N. Y. Journal of Medicine.*

Its claims to merit both as a scientific and practical work, are of the highest order. Whilst we would not elevate it above every other treatise on the same subject, we certainly believe that very few are equal to it, and none superior.—*Southern Med. and Surgical Journal.*

BY THE SAME AUTHOR.

ESSAYS ON THE PUERPERAL FEVER, AND OTHER DISEASES PECULIAR TO WOMEN.

Selected from the writings of British Authors previous to the close of the Eighteenth Century. In one neat octavo volume, extra cloth, of about 450 pages. $2 50.

CHURCHILL (FLEETWOOD), M. D., M. R. I. A., &c.

ON THE DISEASES OF WOMEN; including those of Pregnancy and Childbed.

A new American edition, revised by the Author. With Notes and Additions, by D FRANCIS CONDIE, M. D., author of "A Practical Treatise on the Diseases of Children." With numerous illustrations. In one large and handsome octavo volume, leather, of 768 pages. $3 00.

This edition of Dr. Churchill's very popular treatise may almost be termed a new work, so thoroughly has he revised it in every portion. It will be found greatly enlarged, and thoroughly brought up to the most recent condition of the subject, while the very handsome series of illustrations introduced, representing such pathological conditions as can be accurately portrayed, present a novel feature, and afford valuable assistance to the young practitioner. Such additions as appeared desirable for the American student have been made by the editor, Dr. Condie, while a marked improvement in the mechanical execution keeps pace with the advance in all other respects which the volume has undergone, while the price has been kept at the former very moderate rate.

It comprises, unquestionably, one of the most exact and comprehensive expositions of the present state of medical knowledge in respect to the diseases of women that has yet been published.—*Am. Journ. Med. Sciences*, July, 1857.

We hail with much pleasure the volume before us, thoroughly revised, corrected, and brought up to the latest date, by Dr. Churchill himself, and rendered still more valuable by notes, from the experienced and able pen of Dr. D. F. Condie.—*Southern Med. and Surg. Journal*, Oct. 1857.

This work is the most reliable which we possess on this subject; and is deservedly popular with the profession.—*Charleston Med. Journal*, July, 1857.

Dr. Churchill's treatise on the *Diseases of Women* is, perhaps, the most popular of his works with the profession in this country. It has been very generally received both as a text-book and manual of practice. The present edition has undergone the most elaborate revision, and additions of an important character have been made, to render it a complete exponent of the present state of our knowledge of these diseases.—*N. Y. Journ. of Med.*, Sept. 1857.

We know of no author who deserves that approbation, on "the diseases of females," to the same extent that Dr. Churchill does. His, indeed, is the only thorough treatise we know of on the subject; and it may be commended to practitioners and students as a masterpiece in its particular department.—*The Western Journal of Medicine and Surgery.*

As a comprehensive manual for students, or a work of reference for practitioners, it surpasses any other that has ever issued on the same subject from the British press.—*Dublin Quart. Journal.*

DICKSON (S. H.), M. D.,

Professor of Practice of Medicine in the Jefferson Medical College, Philadelphia.

ELEMENTS OF MEDICINE; a Compendious View of Pathology and Therapeutics, or the History and Treatment of Diseases.

Second edition, revised. In one large and handsome octavo volume, of 750 pages, leather. $3 75. (*Just Issued.*)

The steady demand which has so soon exhausted the first edition of this work, sufficiently shows that the author was not mistaken in supposing that a volume of this character was needed—an elementary manual of practice, which should present the leading principles of medicine with the practical results, in a condensed and perspicuous manner. Disencumbered of unnecessary detail and fruitless speculations, it embodies what is most requisite for the student to learn, and at the same time what the active practitioner wants when obliged, in the daily calls of his profession, to refresh his memory on special points. The clear and attractive style of the author renders the whole easy of comprehension, while his long experience gives to his teachings an authority everywhere acknowledged. Few physicians, indeed, have had wider opportunities for observation and experience, and few, perhaps, have used them to better purpose. As the result of a long life devoted to study and practice, the present edition, revised and brought up to the date of publication, will doubtless maintain the reputation already acquired as a condensed and convenient American text-book on the Practice of Medicine. A few notices of the first edition are appended.

This book is eminently what it professes to be; a distinguished merit in these days. Designed for "Teachers and Students of Medicine," and admirably suited to their wants, we think it will be received, on its own merits, with a hearty welcome.—*Boston Med. and Surg. Journal.*

Indited by one of the most accomplished writers of our country, as well as by one who has long held a high position among teachers and practitioners of medicine, this work is entitled to patronage and careful study. The learned author has endeavored to condense in this volume most of the practical matter contained in his former productions, so as to adapt it to the use of those who have not time to devote to more extensive works.—*Southern Med. and Surg. Journal.*

Prof. Dickson's work supplies, to a great extent, a desideratum long felt in American medicine.—*N O. Med. and Surg. Journal.*

Not professing to be a complete and comprehensive treatise, it will not be found full in detail, nor filled with discussions of theories and opinions, but embracing all that is essential in theory and practice, it is admirably adapted to the wants of the American student. Avoiding all that is uncertain, it presents more clearly to the mind of the reader that which is established and verified by experience. The varied and extensive reading of the author is conspicuously apparent, and all the recent improvements and discoveries in therapeutics and pathology are chronicled in its pages.—*Charleston Med Journal.*

In the first part of the work the subject of general pathology is presented in outline, giving a beautiful picture of its distinguishing features, and throughout the succeeding chapters we find that he has kept scrupulously within the bounds of sound reasoning and legitimate deduction. Dr. Dickson merits a place in the first rank of American writers.—*Western Lancet.*

DRUITT (ROBERT), M. R. C. S., &c.

THE PRINCIPLES AND PRACTICE OF MODERN SURGERY.

Edited by F. W. SARGENT, M. D., author of "Minor Surgery," &c. Illustrated with one hundred and ninety-three wood-engravings. In one very handsomely printed octavo volume, leather, of 576 large pages. $3 00.

Dr. Druitt's researches into the literature of his subject have been not only extensive, but well directed; the most discordant authors are fairly and impartially quoted, and, while due credit is given to each, their respective merits are weighed with an unprejudiced hand. The grain of wheat is preserved, and the chaff is unmercifully stripped off. The arrangement is simple and philosophical, and the style, though clear and interesting, is so precise, that the book contains more information condensed into a few words than any other surgical work with which we are acquainted.—*London Medical Times and Gazette.*

No work, in our opinion, equals it in presenting so much valuable surgical matter in so small a compass.—*St. Louis Med. and Surgical Journal.*

DALTON, JR. (J. C.), M. D.

Professor of Physiology in the College of Physicians, New York.

A TREATISE ON HUMAN PHYSIOLOGY, designed for the use of Students and Practitioners of Medicine. With two hundred and fifty-four illustrations on wood. In one very beautiful octavo volume, of over 600 pages, extra cloth, $4 00; leather, raised bands, $4 25. (*Just Issued.*)

This system of Physiology, both from the excellence of the arrangement studiously observed throughout every page, and the clear, lucid, and instructive manner in which each subject is treated, promises to form one of the most generally received class-books in the English language. It is, in fact, a most admirable epitome of all the really important discoveries that have always been received as incontestable truths, as well as of those which have been recently added to our stock of knowledge on this subject. We will, however, proceed to give a few extracts from the book itself, as a specimen of its style and composition, and this, we conceive, will be quite sufficient to awaken a general interest in a work which is immeasurably superior in its details to the majority of those of the same class to which it belongs. In its purity of style and elegance of composition it may safely take its place with the very best of our English classics; while in accuracy of description it is impossible that it could be surpassed. In every line is beautifully shadowed forth the emanations of the polished scholar, whose reflections are clothed in a garb as interesting as they are impressive; with the one predominant feeling appearing to pervade the whole—an anxious desire to please and at the same time to instruct.—*Dublin Quarterly Journ. of Med. Sciences*, Nov. 1859.

The work before us, however, in our humble judgment, is precisely what it purports to be, and will answer admirably the purpose for which it is intended. It is *par excellence*, a text-book; and the best text-book in this department that we have ever seen. We have carefully read the book, and speak of its merits from a more than cursory perusal. Looking back upon the work we have just finished, we must say a word concerning the excellence of its illustrations. No department is so dependent upon good illustrations, and those which keep pace with our knowledge of the subject, as that of physiology. The wood-cuts in the work before us are the best we have ever seen, and, being original, serve to illustrate precisely what is desired.—*Buffalo Med. Journal*, March, 1859.

A book of genuine merit like this deserves hearty praise before subjecting it to any minute criticism. We are not prepared to find any fault with its design until we have had more time to appreciate its merits as a manual for daily consultation, and to weigh its statements and conclusions more deliberately. Its excellences we are sure of; its defects we have yet to discover. It is a work highly honorable to its author; to his talents, his industry, his training; to the institution with which he is connected, and to American science.—*Boston Med. and Surgical Journal*, Feb. 24, 1859.

A new book and a first rate one; an original book, and one which cannot be too highly appreciated, and which we are proud to see emanating from our country's press. It is by an author who, though young, is considerably famous for physiological research, and who in this work has erected for himself an enduring monument, a token at once of his labor and his success.—*Nashville Medical Journal*, March, 1859.

Throughout the entire work, the definitions are clear and precise, the arrangement admirable, the argument briefly and well stated, and the style nervous, simple, and concise. Section third, treating of Reproduction, is a monograph of unapproached excellence, upon this subject, in the English tongue. For precision, elegance and force of style, exhaustive method and extent of treatment, fulness of illustration and weight of personal research, we know of no American contribution to medical science which surpasses it, and the day is far distant when its claims to the respectful attention of even the best informed scholars will not be cheerfully conceded by all acquainted with its range and depth.—*Charleston Med. Journal*, May, 1859.

A new elementary work on Human Physiology lifting up its voice in the presence of late and sturdy editions of Kirke's, Carpenter's, Todd and Bowman's, to say nothing of Dunglison's and Draper's, should have something superior in the matter or the manner of its utterance in order to win for itself deserved attention and a name. That matter and that manner, after a candid perusal, we think distinguish this work, and we are proud to welcome it not merely for its nativity's sake, but for its own intrinsic excellence. Its language we find to be plain, direct, unambitious, and falling with a just conciseness on hypothetical or unsettled questions, and yet with sufficient fulness on those living topics already understood, or the path to whose solution is definitely marked out. It does not speak exhaustively upon every subject that it notices, but it does speak suggestively, experimentally, and to their main utilities. Into the subject of Reproduction our author plunges with a kind of loving spirit. Throughout this interesting and obscure department he is a clear and admirable teacher, sometimes a brilliant leader.—*Am. Med. Monthly*, May, 1859.

DUNGLISON, FORBES, TWEEDIE, AND CONOLLY.

THE CYCLOPÆDIA OF PRACTICAL MEDICINE: comprising Treatises on the Nature and Treatment of Diseases, Materia Medica, and Therapeutics, Diseases of Women and Children, Medical Jurisprudence, &c. &c. In four large super-royal octavo volumes, of 3254 double-columned pages, strongly and handsomely bound, with raised bands. $12 00.

*** This work contains no less than four hundred and eighteen distinct treatises, contributed by sixty-eight distinguished physicians, rendering it a complete library of reference for the country practitioner.

The most complete work on Practical Medicine extant; or, at least, in our language.—*Buffalo Medical and Surgical Journal.*

For reference, it is above all price to every practitioner.—*Western Lancet.*

One of the most valuable medical publications of the day—as a work of reference it is invaluable.—*Western Journal of Medicine and Surgery.*

It has been to us, both as learner and teacher, a work for ready and frequent reference, one in which modern English medicine is exhibited in the most advantageous light.—*Medical Examiner.*

We rejoice that this work is to be placed within the reach of the profession in this country, it being unquestionably one of very great value to the practitioner. This estimate of it has not been formed from a hasty examination, but after an intimate acquaintance derived from frequent consultation of it during the past nine or ten years. The editors are practitioners of established reputation, and the list of contributors embraces many of the most eminent professors and teachers of London, Edinburgh, Dublin, and Glasgow. It is, indeed, the great merit of this work that the principal articles have been furnished by practitioners who have not only devoted especial attention to the diseases about which they have written, but have also enjoyed opportunities for an extensive practical acquaintance with them, and whose reputation carries the assurance of their competency justly to appreciate the opinions of others, while it stamps their own doctrines with high and just authority.—*American Medical Journ.*

DEWEES'S COMPREHENSIVE SYSTEM OF MIDWIFERY. Illustrated by occasional cases and many engravings. Twelfth edition, with the author's last improvements and corrections. In one octavo volume, extra cloth, of 600 pages. $3 20.

DEWEES'S TREATISE ON THE PHYSICAL AND MEDICAL TREATMENT OF CHILDREN. The last edition. In one volume, octavo, extra cloth, 548 pages. $2 80

DEWEES'S TREATISE ON THE DISEASES OF FEMALES. Tenth edition. In one volume,

DUNGLISON (ROBLEY), M. D.,

Professor of Institutes of Medicine in the Jefferson Medical College, Philadelphia.

NEW AND ENLARGED EDITION.

MEDICAL LEXICON; a Dictionary of Medical Science, containing a concise Explanation of the various Subjects and Terms of Anatomy, Physiology, Pathology, Hygiene, Therapeutics, Pharmacology, Pharmacy, Surgery, Obstetrics, Medical Jurisprudence, Dentistry, &c. Notices of Climate and of Mineral Waters; Formulæ for Officinal, Empirical, and Dietetic Preparations, &c. With French and other Synonymes. FIFTEENTH EDITION, revised and very greatly enlarged. In one very large and handsome octavo volume, of 992 double-columned pages, in small type; strongly bound in leather, with raised bands. Price $4 00.

Especial care has been devoted in the preparation of this edition to render it in every respect worthy a continuance of the very remarkable favor which it has hitherto enjoyed. The rapid sale of FIFTEEN large editions, and the constantly increasing demand, show that it is regarded by the profession as the standard authority. Stimulated by this fact, the author has endeavored in the present revision to introduce whatever might be necessary "to make it a satisfactory and desirable—if not indispensable—lexicon, in which the student may search without disappointment for every term that has been legitimated in the nomenclature of the science." To accomplish this, large additions have been found requisite, and the extent of the author's labors may be estimated from the fact that about SIX THOUSAND subjects and terms have been introduced throughout, rendering the whole number of definitions about SIXTY THOUSAND, to accommodate which, the number of pages has been increased by nearly a hundred, notwithstanding an enlargement in the size of the page. The medical press, both in this country and in England, has pronounced the work indispensable to all medical students and practitioners, and the present improved edition will not lose that enviable reputation.

The publishers have endeavored to render the mechanical execution worthy of a volume of such universal use in daily reference. The greatest care has been exercised to obtain the typographical accuracy so necessary in a work of the kind. By the small but exceedingly clear type employed, an immense amount of matter is condensed in its thousand ample pages, while the binding will be found strong and durable. With all these improvements and enlargements, the price has been kept at the former very moderate rate, placing it within the reach of all.

This work, the appearance of the fifteenth edition of which, it has become our duty and pleasure to announce, is perhaps the most stupendous monument of labor and erudition in medical literature. One would hardly suppose after constant use of the preceding editions, where we have never failed to find a sufficiently full explanation of every medical term, that in this edition "*about six thousand subjects and terms have been added,*" with a careful revision and correction of the entire work. It is only necessary to announce the advent of this edition to make it occupy the place of the preceding one on the table of every medical man, as it is without doubt the best and most comprehensive work of the kind which has ever appeared.—*Buffalo Med. Journ.*, Jan. 1858.

The work is a monument of patient research, skilful judgment, and vast physical labor, that will perpetuate the name of the author more effectually than any possible device of stone or metal. Dr. Dunglison deserves the thanks not only of the American profession, but of the whole medical world.—*North Am. Medico-Chir. Review*, Jan. 1858.

A Medical Dictionary better adapted for the wants of the profession than any other with which we are acquainted, and of a character which places it far above comparison and competition.—*Am. Journ. Med. Sciences*, Jan. 1858.

We need only say, that the addition of 6,000 new terms, with their accompanying definitions, may be said to constitute a new work, by itself. We have examined the Dictionary attentively, and are most happy to pronounce it unrivalled of its kind. The erudition displayed, and the extraordinary industry which must have been demanded, in its preparation and perfection, redound to the lasting credit of its author, and have furnished us with a volume *indispensable* at the present day, to all who would find themselves *au niveau* with the highest standards of medical information.—*Boston Medical and Surgical Journal*, Dec. 31, 1857.

Good lexicons and encyclopedic works generally, are the most labor-saving contrivances which literary men enjoy; and the labor which is required to produce them in the perfect manner of this example is something appalling to contemplate. The author tells us in his preface that he has added about six thousand terms and subjects to this edition, which, before, was considered universally as the best work of the kind in any language.—*Silliman's Journal*, March, 1858.

He has razed his gigantic structure to the foundations, and remodelled and reconstructed the entire pile. No less than *six thousand* additional subjects and terms are illustrated and analyzed in this new edition, swelling the grand aggregate to beyond sixty thousand! Thus is placed before the profession a complete and thorough exponent of medical terminology, without rival or possibility of rivalry.—*Nashville Journ. of Med. and Surg.*, Jan. 1858.

It is universally acknowledged, we believe, that this work is incomparably the best and most complete Medical Lexicon in the English language. The amount of labor which the distinguished author has bestowed upon it is truly wonderful, and the learning and research displayed in its preparation are equally remarkable. Comment and commendation are unnecessary, as no one at the present day thinks of purchasing any other Medical Dictionary than this.—*St. Louis Med. and Surg. Journ.*, Jan. 1858.

It is the foundation stone of a good medical library, and should always be included in the first list of books purchased by the medical student.—*Am. Med. Monthly*, Jan. 1858.

A very perfect work of the kind, undoubtedly the most perfect in the English language.—*Med. and Surg. Reporter*, Jan. 1858.

It is now emphatically *the* Medical Dictionary of the English language, and for it there is no substitute.—*N. H. Med. Journ.*, Jan. 1858.

It is scarcely necessary to remark that any medical library wanting a copy of Dunglison's Lexicon must be imperfect.—*Cin. Lancet*, Jan. 1858.

We have ever considered it the best authority published, and the present edition we may safely say has no equal in the world.—*Peninsular Med. Journal*, Jan. 1858.

The most complete authority on the subject to be found in any language.—*Va. Med. Journal*, Feb. '58.

BY THE SAME AUTHOR.

THE PRACTICE OF MEDICINE. A Treatise on Special Pathology and Therapeutics. Third Edition. In two large octavo volumes, leather, of 1,500 pages. $6 25.

DUNGLISON (ROBLEY), M. D.,

Professor of Institutes of Medicine in the Jefferson Medical College, Philadelphia.

HUMAN PHYSIOLOGY. Eighth edition. Thoroughly revised and extensively modified and enlarged, with five hundred and thirty-two illustrations. In two large and handsomely printed octavo volumes, leather, of about 1500 pages. $7 00.

In revising this work for its eighth appearance, the author has spared no labor to render it worthy a continuance of the very great favor which has been extended to it by the profession. The whole contents have been rearranged, and to a great extent remodelled; the investigations which of late years have been so numerous and so important, have been carefully examined and incorporated, and the work in every respect has been brought up to a level with the present state of the subject. The object of the author has been to render it a concise but comprehensive treatise, containing the whole body of physiological science, to which the student and man of science can at all times refer with the certainty of finding whatever they are in search of, fully presented in all its aspects; and on no former edition has the author bestowed more labor to secure this result.

We believe that it can truly be said, no more complete repertory of facts upon the subject treated, can anywhere be found. The author has, moreover, that enviable tact at description and that facility and ease of expression which render him peculiarly acceptable to the casual, or the studious reader. This faculty, so requisite in setting forth many graver and less attractive subjects, lends additional charms to one always fascinating.—*Boston Med. and Surg. Journal*, Sept. 1856.

The most complete and satisfactory system of Physiology in the English language.—*Amer. Med. Journal*.

The best work of the kind in the English language.—*Silliman's Journal*.

The present edition the author has made a perfect mirror of the science as it is at the present hour. As a work upon physiology proper, the science of the functions performed by the body, the student will find it all he wishes.—*Nashville Journ. of Med.* Sept. 1856.

That he has succeeded, most admirably succeeded in his purpose, is apparent from the appearance of an eighth edition. It is now the great encyclopædia on the subject, and worthy of a place in every physician's library.—*Western Lancet*, Sept. 1856.

BY THE SAME AUTHOR. (*A new edition.*)

GENERAL THERAPEUTICS AND MATERIA MEDICA; adapted for a Medical Text-book. With Indexes of Remedies and of Diseases and their Remedies. SIXTH EDITION, revised and improved. With one hundred and ninety-three illustrations. In two large and handsomely printed octavo vols., leather, of about 1100 pages. $6 00.

In announcing a new edition of Dr. Dunglison's General Therapeutics and Materia Medica, we have no words of commendation to bestow upon a work whose merits have been heretofore so often and so justly extolled. It must not be supposed, however, that the present is a mere reprint of the previous edition; the character of the author for laborious research, judicious analysis, and clearness of expression, is fully sustained by the numerous additions he has made to the work, and the careful revision to which he has subjected the whole.—*N. A. Medico-Chir. Review*, Jan. 1858.

The work will, we have little doubt, be bought and read by the majority of medical students; its size, arrangement, and reliability recommend it to all; no one, we venture to predict, will study it without profit, and there are few to whom it will not be in some measure useful as a work of reference. The young practitioner, more especially, will find the copious indexes appended to this edition of great assistance in the selection and preparation of suitable formulæ.—*Charleston Med. Journ. and Review*, Jan. 1858.

BY THE SAME AUTHOR. (*A new Edition.*)

NEW REMEDIES, WITH FORMULÆ FOR THEIR PREPARATION AND ADMINISTRATION. Seventh edition, with extensive Additions. In one very large octavo volume, leather, of 770 pages. $3 75.

Another edition of the "New Remedies" having been called for, the author has endeavored to add everything of moment that has appeared since the publication of the last edition.

The articles treated of in the former editions will be found to have undergone considerable expansion in this, in order that the author might be enabled to introduce, as far as practicable, the results of the subsequent experience of others, as well as of his own observation and reflection; and to make the work still more deserving of the extended circulation with which the preceding editions have been favored by the profession. By an enlargement of the page, the numerous additions have been incorporated without greatly increasing the bulk of the volume.—*Preface.*

One of the most useful of the author's works.—*Southern Medical and Surgical Journal.*

This elaborate and useful volume should be found in every medical library, for as a book of reference, for physicians, it is unsurpassed by any other work in existence, and the double index for diseases and for remedies, will be found greatly to enhance its value.—*New York Med. Gazette.*

The great learning of the author, and his remarkable industry in pushing his researches into every source whence information is derivable, have enabled him to throw together an extensive mass of facts and statements, accompanied by full reference to authorities; which last feature renders the work practically valuable to investigators who desire to examine the original papers.—*The American Journal of Pharmacy.*

ELLIS (BENJAMIN), M. D.

THE MEDICAL FORMULARY: being a Collection of Prescriptions, derived from the writings and practice of many of the most eminent physicians of America and Europe. Together with the usual Dietetic Preparations and Antidotes for Poisons. To which is added an Appendix, on the Endermic use of Medicines, and on the use of Ether and Chloroform. The whole accompanied with a few brief Pharmaceutic and Medical Observations. Tenth edition, revised and much extended by ROBERT P. THOMAS, M. D., Professor of Materia Medica in the Philadelphia College of Pharmacy. In one neat octavo volume, extra cloth, of 296 pages. $1 75.

ERICHSEN (JOHN),

Professor of Surgery in University College, London, &c.

THE SCIENCE AND ART OF SURGERY; BEING A TREATISE ON SURGICAL INJURIES, DISEASES, AND OPERATIONS.

New and improved American, from the second enlarged and carefully revised London edition. Illustrated with over four hundred engravings on wood. In one large and handsome octavo volume, of one thousand closely printed pages, leather, raised bands. $4 50. (*Just Issued.*)

The very distinguished favor with which this work has been received on both sides of the Atlantic has stimulated the author to render it even more worthy of the position which it has so rapidly attained as a standard authority. Every portion has been carefully revised, numerous additions have been made, and the most watchful care has been exercised to render it a complete exponent of the most advanced condition of surgical science. In this manner the work has been enlarged by about a hundred pages, while the series of engravings has been increased by more than a hundred, rendering it one of the most thoroughly illustrated volumes before the profession. The additions of the author having rendered unnecessary most of the notes of the former American editor, but little has been added in this country; some few notes and occasional illustrations have, however, been introduced to elucidate American modes of practice.

It is, in our humble judgment, decidedly the best book of the kind in the English language. Strange that just such books are not oftener produced by public teachers of surgery in this country and Great Britain. Indeed, it is a matter of great astonishment, but no less true than astonishing, that of the many works on surgery republished in this country within the last fifteen or twenty years as text-books for medical students, this is the only one that even approximates to the fulfilment of the peculiar wants of young men just entering upon the study of this branch of the profession.—*Western Jour. of Med. and Surgery.*

Its value is greatly enhanced by a very copious well-arranged index. We regard this as one of the most valuable contributions to modern surgery. To one entering his novitiate of practice, we regard it the most serviceable guide which he can consult. He will find a fulness of detail leading him through every step of the operation, and not deserting him until the final issue of the case is decided.—*Stethoscope.*

Embracing, as will be perceived, the whole surgical domain, and each division of itself almost complete and perfect, each chapter full and explicit, each subject faithfully exhibited, we can only express our estimate of it in the aggregate. We consider it an excellent contribution to surgery, as probably the best single volume now extant on the subject, and with great pleasure we add it to our text-books.—*Nashville Journal of Medicine and Surgery.*

Prof. Erichsen's work, for its size, has not been surpassed; his nine hundred and eight pages, profusely illustrated, are rich in physiological, pathological, and operative suggestions, doctrines, details, and processes; and will prove a reliable resource for information, both to physician and surgeon, in the hour of peril.—*N. O. Med. and Surg. Journal.*

FOWNES (GEORGE), PH. D., &c.

A MANUAL OF ELEMENTARY CHEMISTRY; Theoretical and Practical.

From the seventh revised and corrected London edition. With one hundred and ninety-seven illustrations. Edited by ROBERT BRIDGES, M. D. In one large royal 12mo. volume, of 600 pages. In leather, $1 65; extra cloth, $1 50. (*Just Issued.*)

The death of the author having placed the editorial care of this work in the practised hands of Drs. Bence Jones and A. W. Hoffman, everything has been done in its revision which experience could suggest to keep it on a level with the rapid advance of chemical science. The additions requisite to this purpose have necessitated an enlargement of the page, notwithstanding which the work has been increased by about fifty pages. At the same time every care has been used to maintain its distinctive character as a condensed manual for the student, divested of all unnecessary detail or mere theoretical speculation. The additions have, of course, been mainly in the department of Organic Chemistry, which has made such rapid progress within the last few years, but yet equal attention has been bestowed on the other branches of the subject—Chemical Physics and Inorganic Chemistry—to present all investigations and discoveries of importance, and to keep up the reputation of the volume as a complete manual of the whole science, admirably adapted for the learner. By the use of a small but exceedingly clear type the matter of a large octavo is compressed within the convenient and portable limits of a moderate sized duodecimo, and at the very low price affixed, it is offered as one of the cheapest volumes before the profession.

A few notices of former editions are appended.

We know of no better text-book, especially in the difficult department of organic chemistry, upon which it is particularly full and satisfactory. We would recommend it to preceptors as a capital "office book" for their students who are beginners in Chemistry. It is copiously illustrated with excellent wood-cuts, and altogether admirably "got up."—*N. J. Medical Reporter.*

A standard manual, which has long enjoyed the reputation of embodying much knowledge in a small space. The author has achieved the difficult task of condensation with masterly tact. His book is concise without being dry, and brief without being too dogmatical or general.—*Virginia Med. and Surgical Journal.*

The work of Dr. Fownes has long been before the public, and its merits have been fully appreciated as the best text-book on chemistry now in existence. We do not, of course, place it in a rank superior to the works of Brande, Graham, Turner, Gregory, or Gmelin, but we say that, as a work for students, it is preferable to any of them.—*London Journal of Medicine.*

A work well adapted to the wants of the student. It is an excellent exposition of the chief doctrines and facts of modern chemistry. The size of the work, and still more the condensed yet perspicuous style in which it is written, absolve it from the charges very properly urged against most manuals termed popular.—*Edinburgh Journal of Medical Science.*

FISKE FUND PRIZE ESSAYS.—THE EFFECTS OF CLIMATE ON TUBERCULOUS DISEASE. By EDWIN LEE, M. R. C. S., London, and THE INFLUENCE OF PREGNANCY ON THE DEVELOPMENT OF TUBERCLES. By EDWARD WARREN, M. D., of Edenton, N. C. Together in one neat 8vo. volume, extra cloth. $1 00.

PRICK ON RENAL AFFECTIONS; their Diagnosis and Pathology. With illustrations. One volume, royal 12mo., extra cloth. 75 cents

FERGUSSON (WILLIAM), F. R. S.,

Professor of Surgery in King's College, London, &c.

A SYSTEM OF PRACTICAL SURGERY.

Fourth American, from the third and enlarged London edition. In one large and beautifully printed octavo volume, of about 700 pages, with 393 handsome illustrations, leather. $3 00.

FLINT (AUSTIN), M. D.,

Professor of the Theory and Practice of Medicine in the University of Louisville, &c.

PHYSICAL EXPLORATION AND DIAGNOSIS OF DISEASES AFFECTING THE RESPIRATORY ORGANS. In one large and handsome octavo volume, extra cloth, 636 pages. $3 00.

We regard it, in point both of arrangement and of the marked ability of its treatment of the subjects, as destined to take the first rank in works of this class. So far as our information extends, it has at present no equal. To the practitioner, as well as the student, it will be invaluable in clearing up the diagnosis of doubtful cases, and in shedding light upon difficult phenomena.—*Buffalo Med. Journal.*

A work of original observation of the highest merit We recommend the treatise to every one who wishes to become a correct auscultator. Based to a very large extent upon cases numerically examined, it carries the evidence of careful study and discrimination upon every page. It does credit to the author, and through him, to the profession in this country. It is, what we cannot call every book upon auscultation, a readable book.—*Am. Jour. Med. Sciences.*

BY THE SAME AUTHOR. (*Now Ready.*)

A PRACTICAL TREATISE ON THE DIAGNOSIS, PATHOLOGY, AND TREATMENT OF DISEASES OF THE HEART. In one neat octavo volume, of about 500 pages, extra cloth. $2 75.

From the Author's Preface.

"In the preparation of this volume, the aim has been to meet the wants of the medical student and practitioner by the production of a work devoted exclusively to diseases of the heart, and treating concisely but comprehensively of these diseases with reference to their diagnosis, pathology, and treatment. Such a work, if satisfactorily executed, it is believed, can hardly fail to prove acceptable, in view of the importance of this class of diseases, the progress made in their investigation during the last few years, and the absence of any extended text-book, published in this country, having the same scope and objects, since the appearance of Dr. Hope's treatise, twenty years ago."

We do not know that Dr. Flint has written anything which is not first rate; but this, his latest contribution to medical literature, in our opinion, surpasses all the others. The work is most comprehensive in its scope, and most sound in the views it enunciates. The descriptions are clear and methodical; the statements are substantiated by facts, and are made with such simplicity and sincerity, that without them they would carry conviction. The style is admirably clear, direct, and free from dryness With Dr. Walshe's excellent treatise before us, we have no hesitation in saying that Dr. Flint's book is the best work on the heart in the English language. —*Boston Med. and Surg. Journal*, Dec. 15, 1859.

We have thus endeavored to present our readers with a fair analysis of this remarkable work. Preferring to employ the very words of the distinguished author, wherever it was possible, we have essayed to condense into the briefest space a general view of his observations and suggestions, and to direct the attention of our brethren to the abounding stores of valuable matter here collected and arranged for their use and instruction. No medical library will hereafter be considered complete without this volume; and we trust it will promptly find its way into the hands of every American student and physician.—*N. Am. Med. Chir. Review*, Jan 1860.

GRAHAM (THOMAS), F. R. S.,

THE ELEMENTS OF INORGANIC CHEMISTRY, including the Applications of the Science in the Arts. New and much enlarged edition, by HENRY WATTS and ROBERT BRIDGES, M. D. Complete in one large and handsome octavo volume, of over 800 very large pages, with two hundred and thirty-two wood-cuts, extra cloth. $4 00.

*** Part II., completing the work from p. 431 to end, with Index, Title Matter, &c., may be had separate, cloth backs and paper sides. Price $2 50.

From Prof. E. N. Horsford, Harvard College.

It has, in its earlier and less perfect editions, been familiar to me, and the excellence of its plan and the clearness and completeness of its discussions, have long been my admiration.

No reader of English works on this science can afford to be without this edition of Prof. Graham's Elements.—*Silliman's Journal*, March, 1858.

From Prof. Wolcott Gibbs, N. Y. Free Academy.

The work is an admirable one in all respects, and its republication here cannot fail to exert a positive influence upon the progress of science in this country.

GRIFFITH (ROBERT E.), M. D., &c.

A UNIVERSAL FORMULARY, containing the methods of Preparing and Administering Officinal and other Medicines. The whole adapted to Physicians and Pharmaceutists. SECOND EDITION, thoroughly revised, with numerous additions, by ROBERT P. THOMAS, M. D., Professor of Materia Medica in the Philadelphia College of Pharmacy. In one large and handsome octavo volume, extra cloth, of 650 pages, double columns. $3 00; or in sheep, $3 25.

It was a work requiring much perseverance, and when published was looked upon as by far the best work of its kind that had issued from the American press. Prof Thomas has certainly "improved," as well as added to this Formulary, and has rendered it additionally deserving of the confidence of pharmaceutists and physicians.—*Am. Journal of Pharmacy.*

We are happy to announce a new and improved edition of this one of the most valuable and useful works that have emanated from an American pen. It would do credit to any country, and will be found of daily usefulness to practitioners of medicine; it is better adapted to their purposes than the dispensatories.—*Southern Med. and Surg Journal*

This is a work of six hundred and fifty one pages embracing all on the subject of preparing and administering medicines that can be desired by the physician and pharmaceutist.—*Western Lancet.*

It is one of the most useful books a country practitioner can possibly have in his possession.—*Medical Chronicle.*

The amount of useful, every-day matter, for a practicing physician, is really immense.—*Boston Med. and Surg. Journal.*

This edition of Dr. Griffith's work has been greatly improved by the revision and ample additions of Dr. Thomas, and is now, we believe, one of the most complete works of its kind in any language. The additions amount to about seventy pages, and no effort has been spared to include in them all the recent improvements which have been published in medical journals, and systematic treatises. A work of this kind appears to us indispensable to the physician, and there is none we can more cordially recommend.—*N. Y. Journal of Medicine.*

GROSS (SAMUEL D.), M. D.,

Professor of Surgery in the Jefferson Medical College of Philadelphia, &c.

Now Ready, August, 1859.

A SYSTEM OF SURGERY: Pathological, Diagnostic, Therapeutic, and Operative.

Illustrated by NINE HUNDRED AND THIRTY-SIX ENGRAVINGS. In two large and beautifully printed octavo volumes, of nearly twenty-four hundred pages; strongly bound in leather, with raised bands. Price $12.

FROM THE AUTHOR'S PREFACE.

"The object of this work is to furnish a systematic and comprehensive treatise on the science and practice of surgery, considered in the broadest sense; one that shall serve the practitioner as a faithful and available guide in his daily routine of duty. It has been too much the custom of modern writers on this department of the healing art to omit certain topics altogether, and to speak of others at undue length, evidently assuming that their readers could readily supply the deficiencies from other sources, or that what has been thus slighted is of no particular practical value. My aim has been to embrace the whole domain of surgery, and to allot to every subject its legitimate claim to notice in the great family of external diseases and accidents. How far this object has been accomplished, it is not for me to determine. It may safely be affirmed, however, that there is no topic, properly appertaining to surgery, that will not be found to be discussed, to a greater or less extent, in these volumes. If a larger space than is customary has been devoted to the consideration of inflammation and its results, or the great principles of surgery, it is because of the conviction, grounded upon long and close observation, that there are no subjects so little understood by the general practitioner. Special attention has also been bestowed upon the discrimination of diseases; and an elaborate chapter has been introduced on general diagnosis."

That these intentions have been carried out in the fullest and most elaborate manner is sufficiently shown by the great extent of the work, and the length of time during which the author has been concentrating on the task his studies and his experience, guided by the knowledge which twenty years of lecturing on surgical topics have given him of the wants of the profession.

Of Dr. Gross's treatise on Surgery we can say no more than that it is the most elaborate and complete work on this branch of the healing art which has ever been published in any country. A systematic work, it admits of no analytical review; but, did our space permit, we should gladly give some extracts from it, to enable our readers to judge of the classical style of the author, and the exhausting way in which each subject is treated.—*Dublin Quarterly Journal of Med. Science*, Nov. 1859.

The work is so superior to its predecessors in matter and extent, as well as in illustrations and style of publication, that we can honestly recommend it as the best work of the kind to be taken home by the young practitioner.—*Am. Med. Journ.*, Jan. 1860.

The treatise of Prof. Gross is not, therefore, a mere text-book for undergraduates, but a systematic record of more than thirty years' experience, reading, and reflection by a man of observation, sound judgment, and rare practical tact, and as such deserves to take rank with the renowned productions of a similar character, by Vidal and Boyer, of France, or those of Chelius, Blasius, and Langenbeck, of Germany. Hence, we do not hesitate to express the opinion that it will speedily take the same elevated position in regard to surgery that has been given by common consent to the masterly work of Pereira in Materia Medica, or to Todd and Bowman in Physiology.—*N. O. Med. and Surg. Journal*, Jan. 1860.

At present, however, our object is not to review the work (this we purpose doing hereafter), but simply to announce its appearance, that in the meantime our readers may procure and examine it for themselves. But even this much we cannot do without expressing the opinion that, in putting forth these two volumes, Dr. Gross has reared for himself a lasting monument to his skill as a surgeon, and to his industry and learning as an author.—*St. Louis Med. and Surg. Journal*, Nov. 1859.

With pleasure we record the completion of this long-anticipated work. The reputation which the author has for many years sustained, both as a surgeon and as a writer, had prepared us to expect a treatise of great excellence and originality; but we confess we were by no means prepared for the work which is before us—the most complete treatise upon surgery ever published, either in this or any other country, and we might, perhaps, safely say, the most original. There is no subject belonging properly to surgery which has not received from the author a due share of attention. Dr. Gross has supplied a want in surgical literature which has long been felt by practitioners; he has furnished us with a complete practical treatise upon surgery in all its departments. As Americans, we are proud of the achievement; as surgeons, we are most sincerely thankful to him for his extraordinary labors in our behalf.—*N. Y. Monthly Review and Buffalo Med. Journal*, Oct. 1850.

BY THE SAME AUTHOR.

ELEMENTS OF PATHOLOGICAL ANATOMY. Third edition, thoroughly

revised and greatly improved. In one large and very handsome octavo volume, with about three hundred and fifty beautiful illustrations, of which a large number are from original drawings. Price in extra cloth, $4 75; leather, raised bands, $5 25. (*Lately Published.*)

The very rapid advances in the Science of Pathological Anatomy during the last few years have rendered essential a thorough modification of this work, with a view of making it a correct exponent of the present state of the subject. The very careful manner in which this task has been executed, and the amount of alteration which it has undergone, have enabled the author to say that "with the many changes and improvements now introduced, the work may be regarded almost as a new treatise," while the efforts of the author have been seconded as regards the mechanical execution of the volume, rendering it one of the handsomest productions of the American press.

We most sincerely congratulate the author on the successful manner in which he has accomplished his proposed object. His book is most admirably calculated to fill up a blank which has long been felt to exist in this department of medical literature, and as such must become very widely circulated amongst all classes of the profession.—*Dublin Quarterly Journ. of Med. Science*, Nov. 1857.

We have been favorably impressed with the general manner in which Dr. Gross has executed his task of affording a comprehensive digest of the present state of the literature of Pathological Anatomy, and have much pleasure in recommending his work to our readers, as we believe one well deserving of diligent perusal and careful study.—*Montreal Med. Chron.*, Sept. 1857.

BY THE SAME AUTHOR.

A PRACTICAL TREATISE ON FOREIGN BODIES IN THE AIR-PASSAGES.

In one handsome octavo volume, extra cloth, with illustrations. pp. 468. $2 75.

GROSS (SAMUEL D.), M. D.,

Professor of Surgery in the Jefferson Medical College of Philadelphia, &c.

A PRACTICAL TREATISE ON THE DISEASES, INJURIES, AND MALFORMATIONS OF THE URINARY BLADDER, THE PROSTATE GLAND, AND THE URETHRA. Second Edition, revised and much enlarged, with one hundred and eighty-four illustrations. In one large and very handsome octavo volume, of over nine hundred pages. In leather, raised bands, $5 25; extra cloth, $4 75.

Philosophical in its design, methodical in its arrangement, ample and sound in its practical details, it may in truth be said to leave scarcely anything to be desired on so important a subject.—*Boston Med. and Surg Journal.*

Whoever will peruse the vast amount of valuable practical information it contains, will, we think, agree with us, that there is no work in the English language which can make any just pretensions to be its equal.—*N. Y. Journal of Medicine.*

A volume replete with truths and principles of the utmost value in the investigation of these diseases.—*American Medical Journal.*

GRAY (HENRY), F. R. S.,

Lecturer on Anatomy at St. George's Hospital, London, &c.

ANATOMY, DESCRIPTIVE AND SURGICAL. The Drawings by H. V. CARTER, M. D., late Demonstrator on Anatomy at St. George's Hospital; the Dissections jointly by the AUTHOR and Dr. CARTER. In one magnificent imperial octavo volume, of nearly 800 pages, with 363 large and elaborate engravings on wood. Price in extra cloth, $6 25; leather raised bands, $7 00. *(Now Ready.)*

The author has endeavored in this work to cover a more extended range of subjects than is customary in the ordinary text-books, by giving not only the details necessary for the student, but also the application of those details in the practice of medicine and surgery, thus rendering it both a guide for the learner, and an admirable work of reference for the active practitioner. The engravings form a special feature in the work, many of them being the size of nature, nearly all original, and having the names of the various parts printed on the body of the cut, in place of figures of reference with descriptions at the foot. They thus form a complete and splendid series, which will greatly assist the student in obtaining a clear idea of Anatomy, and will also serve to refresh the memory of those who may find in the exigencies of practice the necessity of recalling the details of the dissecting room; while combining, as it does, a complete Atlas of Anatomy, with a thorough treatise on systematic, descriptive, and applied Anatomy, the work will be found of essential use to all physicians who receive students in their offices, relieving both preceptor and pupil of much labor in laying the groundwork of a thorough medical education.

The work before us is one entitled to the highest praise, and we accordingly welcome it as a valuable addition to medical literature. Intermediate in fulness of detail between the treatises of Sharpey and of Wilson, its characteristic merit lies in the number and excellence of the engravings it contains. Most of these are original, of much larger than ordinary size, and admirably executed. The various parts are also lettered after the plan adopted in Holden's Osteology. It would be difficult to over-estimate the advantages offered by this mode of pictorial illustration. Bones, ligaments, muscles, bloodvessels, and nerves are each in turn figured, and marked with their appropriate names; thus enabling the student to comprehend, at a glance, what would otherwise often be ignored, or at any rate, acquired only by prolonged and irksome application. In conclusion, we heartily commend the work of Mr. Gray to the attention of the medical profession, feeling certain that it should be regarded as one of the most valuable contributions ever made to educational literature.—*N. Y. Monthly Review*, Dec. 1859.

In this view, we regard the work of Mr. Gray as far better adapted to the wants of the profession, and especially of the student, than any treatise on anatomy yet published in this country. It is destined, we believe, to supersede all others, both as a manual of dissections, and a standard of reference to the student of general or relative anatomy.—*N. Y. Journal of Medicine*, Nov. 1859.

This is by all comparison the most excellent work on Anatomy extant. It is just the thing that has been long desired by the profession. With such a guide as this, the student of anatomy, the practitioner of medicine, and the surgical devotee have all a newer, clearer, and more radiant light thrown upon the intricacies and mysteries of this wonderful science, and are thus enabled to accomplish results which hitherto seemed possible only to the specialist. The plates, which are copied from recent dissections, are so well executed, that the most superficial observer cannot fail to perceive the positions, relations, and distinctive features of the various parts, and to take in more of anatomy at a glance, than by many long hours of diligent study over the most erudite treatise, or, perhaps, at the dissecting table itself.—*Med. Journ. of N. Carolina*, Oct. 1859.

For this truly admirable work the profession is indebted to the distinguished author of "Gray on the Spleen." The vacancy it fills has been long felt to exist in this country. Mr. Gray writes throughout with both branches of his subject in view. His description of each particular part is followed by a notice of its relations to the parts with which it is connected, and this, too, sufficiently ample for all the purposes of the operative surgeon. After describing the bones and muscles, he gives a concise statement of the fractures to which the bones of the extremities are most liable, together with the amount and direction of the displacement to which the fragments are subjected by muscular action. The section on arteries is remarkably full and accurate. Not only is the surgical anatomy given to every important vessel, with directions for its ligation, but at the end of the description of each arterial trunk we have a useful summary of the irregularities which may occur in its origin, course, and termination.—*N. A. Med. Chir. Review*, Mar. 1859.

Mr. Gray's book, in excellency of arrangement and completeness of execution, exceeds any work on anatomy hitherto published in the English language, affording a complete view of the structure of the human body, with especial reference to practical surgery. Thus the volume constitutes a perfect book of reference for the practitioner, demanding a place in even the most limited library of the physician or surgeon, and a work of necessity for the student to fix in his mind what he has learned by the dissecting knife from the book of nature.—*The Dublin Quarterly Journal of Med. Sciences*, Nov. 1858.

In our judgment, the mode of illustration adopted in the present volume cannot but present many advantages to the student of anatomy. To the zealous disciple of Vesalius, earnestly desirous of real improvement, the book will certainly be of immense value; but, at the same time, we must also confess that to those simply desirous of "cramming" it will be an undoubted godsend. The peculiar value of Mr. Gray's mode of illustration is nowhere more markedly evident than in the chapter on osteology, and especially in those portions which treat of the bones of the head and of their development. The study of these parts is thus made one of comparative ease, if not of positive pleasure; and those bugbears of the student, the temporal and sphenoid bones, are shorn of half their terrors. It is, in our estimation, an admirable and complete text-book for the student, and a useful work of reference for the practitioner; its pictorial character forming a novel element, to which we have already sufficiently alluded.—*Am. Journ. Med. Sci.*, July, 1859.

GIBSON'S INSTITUTES AND PRACTICE OF SURGERY. Eighth edition, improved and altered. With thirty-four plates. In two handsome octavo volumes, containing about 1,000 pages, leather, raised bands. $6 50

GARDNER'S MEDICAL CHEMISTRY, for the use of Students and the Profession. In one royal 12mo. vol., cloth, pp. 396, with wood cuts. $1.

GLUGE'S ATLAS OF PATHOLOGICAL HISTOLOGY. Translated, with Notes and Additions by JOSEPH LEIDY, M. D. In one volume, very large imperial quarto, extra cloth, with 320 copper-plate figures, plain and colored, $5 00.

HUGHES' INTRODUCTION TO THE PRACTICE OF AUSCULTATION AND OTHER MODES OF PHYSICAL DIAGNOSIS IN DISEASES OF THE LUNGS AND HEART Second edition 1 vol. royal 12mo., ex. cloth, pp. 304. $1 00.

HAMILTON (FRANK H.), M. D.,

Professor of Surgery, in Buffalo Medical College, &c.

A COMPLETE TREATISE ON FRACTURES AND DISLOCATIONS. In

one large and handsome octavo volume, of 750 pages, with nearly 300 illustrations. $4 25. (*Now Ready*, January, 1860.)

There are few subjects of more immediate importance to the general practitioner than those which this volume so fully and ably elucidates Every physician is liable at any moment to have his skill put to the test by obscure and doubtful cases, on the event of which may perhaps depend the future usefulness of the patient and the reputation of the surgeon; the frequency of this class of injuries and the number of trials for mal-practice thence arising, rendering a familiarity with their diagnosis and a knowledge of the best plans of treatment one of the most valuable acquisitions that the general practitioner can have. Notwithstanding this, the language as yet contains no complete work treating the whole subject in a thorough manner, so that Dr. Hamilton's work can hardly fail to be hailed by the profession as an important addition to medical literature. One valuable feature of his labors will be found in the thoroughness with which he has described and compared all the various plans of treatment that have been suggested or employed, and the care with which he presents the numerous improvements and inventions made by American surgeons in simplifying and perfecting the apparatus made use of. Much of this matter has hitherto lain buried in Journals and Transactions, inaccessible to active practitioners, and when thus diligently sought out, brought together, and contrasted, can hardly fail to be productive of a marked advance in the treatment of these accidents. Dr. Hamilton has been known for many years by his researches on these topics; his papers on various points connected with them are everywhere cited as authority, and the present volume, combining the experience of long and extensive practice with wide reading and careful reflection, must prove a standard of reference alike for student and practitioner.

HOBLYN (RICHARD D.), M. D.

A DICTIONARY OF THE TERMS USED IN MEDICINE AND THE

COLLATERAL SCIENCES. A new American edition. Revised, with numerous Additions, by ISAAC HAYS, M. D., editor of the "American Journal of the Medical Sciences." In one large royal 12mo. volume, leather, of over 500 double columned pages. $1 50.

To both practitioner and student, we recommend this dictionary as being convenient in size, accurate in definition, and sufficiently full and complete for ordinary consultation —*Charleston Med. Journ.*

Hoblyn has always been a favorite dictionary, and in its present enlarged and improved form will give greater satisfaction than ever. The American editor, Dr. Hays, has made many very valuable additions —*N. J. Med. Reporter.*

We know of no dictionary better arranged and adapted. It is not encumbered with the obsolete terms of a bygone age, but it contains all that are now in use; embracing every department of medical science down to the very latest date.—*Western Lancet.*

Hoblyn's Dictionary has long been a favorite with us. It is the best book of definitions we have, and ought always to be upon the student's table.—*Southern Med. and Surg. Journal.*

HOLLAND'S MEDICAL NOTES AND REFLECTIONS From the third London edition. In one handsome octavo volume, extra cloth. $3.

HORNER'S SPECIAL ANATOMY AND HISTOLOGY. Eighth edition. Extensively revised and modified. In two large octavo volumes, extra cloth, of more than 1000 pages, with over 300 illustrations. $6 00.

HABERSHON (S. O.), M. D.,

Assistant Physician to and Lecturer on Materia Medica and Therapeutics at Guy's Hospital, &c.

PATHOLOGICAL AND PRACTICAL OBSERVATIONS ON DISEASES

OF THE ALIMENTARY CANAL, ŒSOPHAGUS, STOMACH, CÆCUM, AND INTESTINES. With illustrations on wood. In one handsome octavo volume of 312 pages, extra cloth. $1 75. (*Now Ready.*)

JONES (C. HANDFIELD), F. R. S., & EDWARD H. SIEVEKING, M.D.

Assistant Physicians and Lecturers in St. Mary's Hospital, London.

A MANUAL OF PATHOLOGICAL ANATOMY. First American Edition,

Revised. With three hundred and ninety-seven handsome wood engravings. In one large and beautiful octavo volume of nearly 750 pages, leather. $3 75.

As a concise text-book, containing, in a condensed form, a complete outline of what is known in the domain of Pathological Anatomy, it is perhaps the best work in the English language. Its great merit consists in its completeness and brevity, and in this respect it supplies a great desideratum in our literature. Heretofore the student of pathology was obliged to glean from a great number of monographs, and the field was so extensive that but few cultivated it with any degree of success. As a simple work of reference, therefore, it is of great value to the student of pathological anatomy, and should be in every physician's library.—*Western Lancet.*

In offering the above titled work to the public, the authors have not attempted to intrude new views on their professional brethren, but simply to lay before them, what has long been wanted, an outline of the present condition of pathological anatomy. In this they have been completely successful. The work is one of the best compilations which we have ever perused.—*Charleston Medical Journal and Review.*

We urge upon our readers and the profession generally the importance of informing themselves in regard to modern views of pathology, and recommend to them to procure the work before us as the best means of obtaining this information.—*Stethoscope.*

JONES (T. WHARTON), F. R. S.,

Professor of Ophthalmic Medicine and Surgery in University College, London, &c.

THE PRINCIPLES AND PRACTICE OF OPHTHALMIC MEDICINE AND SURGERY.

With one hundred and ten illustrations. Second American from the second and revised London edition, with additions by EDWARD HARTSHORNE, M. D., Surgeon to Wills' Hospital, &c. In one large, handsome royal 12mo. volume, extra cloth, of 500 pages. $1 50.

The work sustains, in every point, the already high reputation of the author as an ophthalmic surgeon as well as a physiologist and pathologist. We entertain little doubt that this book will become what its author hoped it might become, a manual for daily reference and consultation by the student and the general practitioner. The work is marked by that correctness clearness, and precision of style which distinguish all the productions of the learned author.—*British and For. Med. Review.*

KIRKES (WILLIAM SENHOUSE), M. D.,

Demonstrator of Morbid Anatomy at St. Bartholomew's Hospital, &c.

A MANUAL OF PHYSIOLOGY.

A new American, from the third and improved London edition. With two hundred illustrations. In one large and handsome royal 12mo. volume, leather. pp. 586. $2 00. (*Lately Published.*)

This is a new and very much improved edition of Dr. Kirkes' well-known Handbook of Physiology. Originally constructed on the basis of the admirable treatise of Muller, it has in successive editions developed itself into an almost original work, though no change has been made in the plan or arrangement. It combines conciseness with completeness, and is, therefore, admirably adapted for consultation by the busy practitioner.—*Dublin Quarterly Journal.*

Its excellence is in its compactness, its clearness, and its carefully cited authorities It is the most convenient of text-books. These gentlemen, Messrs Kirkes and Paget, have really an immense talent for silence, which is not so common or so cheap as prating people fancy. They have the gift of telling us what we want to know, without thinking it necessary to tell us all they know.—*Boston Med and Surg. Journal.*

One of the very best handbooks of Physiology we possess—presenting just such an outline of the science, comprising an account of its leading facts and generally admitted principles, as the student requires during his attendance upon a course of lectures, or for reference whilst preparing for examination.—*Am. Medical Journal.*

We need only say, that, without entering into discussions of unsettled questions, it contains all the recent improvements in this department of medical science. For the student beginning this study, and the practitioner who has but leisure to refresh his memory, this book is invaluable, as it contains all that it is important to know, without special details, which are read with interest only by those who would make a specialty, or desire to possess a critical knowledge of the subject.—*Charleston Medical Journal.*

KNAPP'S TECHNOLOGY; or, Chemistry applied to the Arts and to Manufactures. Edited, with numerous Notes and Additions, by Dr. RONALDS and Dr. RICHARDSON. With Notes and Additions, by Prof. W. R. JOHNSON. In two handsome octavo volumes, with about 500 wood engravings. $6 00.

LAYCOCK'S LECTURES ON THE PRINCIPLES AND METHODS OF MEDICAL OBSERVATION AND RESEARCH. For the Use of Advanced Students and Junior Practitioners. In one very neat royal 12mo. volume, extra cloth. Price $1.

LUDLOW (J. L.), M. D.

A MANUAL OF EXAMINATIONS upon Anatomy, Physiology, Surgery,

Practice of Medicine, Obstetrics, Materia Medica, Chemistry, Pharmacy, and Therapeutics. To which is added a Medical Formulary. Designed for Students of Medicine throughout the United States. Third edition, thoroughly revised and greatly extended and enlarged. With three hundred and seventy illustrations. In one large and handsome royal 12mo. volume, leather, of over 800 closely printed pages (*Lately Published.*) $2 50.

The great popularity of this volume, and the numerous demands for it during the two years in which it has been out of print, have induced the author in its revision to spare no pains to render it a correct and accurate digest of the most recent condition of all the branches of medical science. In many respects it may, therefore, be regarded rather as a new book than a new edition, an entire section on Physiology having been added, as also one on Organic Chemistry, and many portions having been rewritten. A very complete series of illustrations has been introduced, and every care has been taken in the mechanical execution to render it a convenient and satisfactory book for study or reference.

The arrangement of the volume in the form of question and answer renders it especially suited for the office examination of students and for those preparing for graduation.

We know of no better companion for the student during the hours spent in the lecture room, or to refresh, at a glance, his memory of the various topics *crammed* into his head by the various professors to whom he is compelled to listen.—*Western Lancet*, May, 1857.

LAWRENCE (W.), F. R. S., &c.

A TREATISE ON DISEASES OF THE EYE.

A new edition, edited, with numerous additions, and 243 illustrations, by ISAAC HAYS, M. D., Surgeon to Will's Hospital, &c. In one very large and handsome octavo volume, of 950 pages, strongly bound in leather with raised bands. $5 00.

This admirable treatise—the safest guide and most comprehensive work of reference, which is within the reach of the profession.—*Stethoscope.*

Its ample extent has enabled both author and editor to do justice to all the details of this subject, and condense in this single volume the present state of our knowledge of the whole science in this department whereby its practical value cannot be excelled.—*N Y Med. Gaz.*

LALLEMAND AND WILSON.

A PRACTICAL TREATISE ON THE CAUSES, SYMPTOMS, AND TREATMENT OF SPERMATORRHŒA.

By M. LALLEMAND. Translated and edited by HENRY J McDOUGALL. Third American edition. To which is added —— ON DISEASES OF THE VESICULÆ SEMINALES; AND THEIR ASSOCIATED ORGANS. With special reference to the Morbid Secretions of the Prostatic and Urethral Mucous Membrane. By MARRIS WILSON, M. D. In one neat octavo volume, of about 400 pp. extra cloth. $2 00. (*Just Issued.*)

LA ROCHE (R.), M. D., &c.

YELLOW FEVER, considered in its Historical, Pathological, Etiological, and Therapeutical Relations. Including a Sketch of the Disease as it has occurred in Philadelphia from 1699 to 1854, with an examination of the connections between it and the fevers known under the same name in other parts of temperate as well as in tropical regions. In two large and handsome octavo volumes of nearly 1500 pages, extra cloth. $7 00.

From Professor S. H. Dickson, Charleston, S. C., September 18, 1855.

A monument of intelligent and well applied research, almost without example. It is, indeed, in itself, a large library, and is destined to constitute the special resort as a book of reference, in the subject of which it treats, to all future time.

We have not time at present, engaged as we are, by day and by night, in the work of combating this very disease, now prevailing in our city, to do more than give this cursory notice of what we consider as undoubtedly the most able and erudite medical publication our country has yet produced But in view of the startling fact, that this, the most malignant and unmanageable disease of modern times, has for several years been prevailing in our country to a greater extent than ever before; that it is no longer confined to either large or small cities, but penetrates country villages, plantations, and farmhouses; that it is treated with scarcely better success now than thirty or forty years ago; that there is vast mischief done by ignorant pretenders to knowledge in regard to the disease, and in view of the probability that a majority of southern physicians will be called upon to treat the disease, we trust that this able and comprehensive treatise will be very generally read in the south.—*Memphis Med. Recorder.*

This is decidedly *the* great American medical work of the day—a full, complete, and systematic treatise, unequalled by any other upon the all-important subject of Yellow Fever. The laborious, indefatigable, and learned author has devoted to it many years of arduous research and careful study, and the result is such as will reflect the highest honor upon the author and our country.—*Southern Med. and Surg. Journal.*

The genius and scholarship of this great physician could not have been better employed than in the erection of this towering monument to his own fame, and to the glory of the medical literature of his own country. It is destined to remain the great authority upon the subject of Yellow Fever. The student and physician will find in these volumes a *résumé* of the sum total of the knowledge of the world upon the awful scourge which they so elaborately discuss. The style is so soft and so pure as to refresh and invigorate the mind while absorbing the thoughts of the gifted author, while the publishers have succeeded in bringing the externals into a most felicitous harmony with the inspiration that dwells within. Take it all in all, it is a book we have often dreamed of, but dreamed not that it would ever meet our waking eye as a tangible reality.—*Nashville Journal of Medicine.*

We deem it fortunate that the splendid work of Dr. La Roche should have been issued from the press at this particular time. The want of a reliable digest of all that is known in relation to this frightful malady has long been felt—a want very satisfactorily met in the work before us. We deem it but faint praise to say that Dr. La Roche has succeeded in presenting the profession with an able and complete monograph, one which will find its way into every well ordered library.—*Va. Stethoscope.*

BY THE SAME AUTHOR.

PNEUMONIA; its Supposed Connection, Pathological and Etiological, with Autumnal Fevers, including an Inquiry into the Existence and Morbid Agency of Malaria. In one handsome octavo volume, extra cloth, of 500 pages. $3 00.

LEHMANN (C. G.)

PHYSIOLOGICAL CHEMISTRY. Translated from the second edition by GEORGE E. DAY, M. D., F. R. S., &c., edited by R. E. ROGERS, M. D., Professor of Chemistry in the Medical Department of the University of Pennsylvania, with illustrations selected from Funke's Atlas of Physiological Chemistry, and an Appendix of plates. Complete in two large and handsome octavo volumes, extra cloth, containing 1200 pages, with nearly two hundred illustrations. $6 00.

This great work, universally acknowledged as the most complete and authoritative exposition of the principles and details of Zoochemistry, in its passage through the press, has received from Professor Rogers such care as was necessary to present it in a correct and reliable form. The work is, therefore, presented as in every way worthy the attention of all who desire to be familiar with the modern facts and doctrines of Physiological Science.

The most important contribution as yet made to Physiological Chemistry.—*Am. Journal Med. Sciences*, Jan. 1856.

The present volumes belong to the small class of medical literature which comprises elaborate works of the highest order of merit.—*Montreal Med. Chronicle*, Jan. 1856.

The work of Lehmann stands unrivalled as the most comprehensive book of reference and information extant on every branch of the subject on which it treats.—*Edinburgh Monthly Journal of Medical Science.*

Already well known and appreciated by the scientific world, Professor Lehmann's great work requires no laudatory sentences, as, under a new garb, it is now presented to us. The little space at our command would ill suffice to set forth even a small portion of its excellences.—*Boston Med. and Surg. Journal*, Dec. 1855.

BY THE SAME AUTHOR. (*Lately Published.*)

MANUAL OF CHEMICAL PHYSIOLOGY. Translated from the German, with Notes and Additions, by J. CHESTON MORRIS, M. D., with an Introductory Essay on Vital Force, by Professor SAMUEL JACKSON, M. D., of the University of Pennsylvania. With illustrations on wood. In one very handsome octavo volume, extra cloth, of 336 pages. $2 25.

From Prof. Jackson's Introductory Essay.

In adopting the handbook of Dr. Lehmann as a manual of Organic Chemistry for the use of the students of the University, and in recommending his original work of PHYSIOLOGICAL CHEMISTRY for their more mature studies, the high value of his researches, and the great weight of his authority in that important department of medical science are fully recognized.

MAYNE'S DISPENSATORY AND THERAPEUTICAL REMEMBRANCER. Comprising the entire lists of Materia Medica, with every Practical Formula contained in the three British Pharmacopœias. Edited, with the addition of the Formulæ of the U. S. Pharmacopœia, by R. E. GRIFFITH, M. D. 1 12mo. vol. ex. cl., 300 pp. 75 c.

MALGAIGNE'S OPERATIVE SURGERY, based on Normal and Pathological Anatomy. Translated from the French by FREDERICK BRITTAN, A. B., M. D. With numerous illustrations on wood. In one handsome octavo volume, extra cloth, of nearly six hundred pages. $3 25.

MEIGS (CHARLES D.), M. D.,

Professor of Obstetrics, &c. in the Jefferson Medical College, Philadelphia.

OBSTETRICS: THE SCIENCE AND THE ART. Third edition, revised

and improved. With one hundred and twenty-nine illustrations. In one beautifully printed octavo volume, leather, of seven hundred and fifty-two large pages. $3 75.

The rapid demand for another edition of this work is a sufficient expression of the favorable verdict of the profession. In thus preparing it a third time for the press, the author has endeavored to render it in every respect worthy of the favor which it has received. To accomplish this he has thoroughly revised it in every part. Some portions have been rewritten, others added, new illustrations have been in many instances substituted for such as were not deemed satisfactory, while, by an alteration in the typographical arrangement, the size of the work has not been increased, and the price remains unaltered. In its present improved form, it is, therefore, hoped that the work will continue to meet the wants of the American profession as a sound, practical, and extended System of Midwifery.

Though the work has received only five pages of enlargement, its chapters throughout wear the impress of careful revision. Expunging and rewriting, remodelling its sentences, with occasional new material, all evince a lively desire that it shall deserve to be regarded as improved in *manner* as well as *matter*. In the *matter*, every stroke of the pen has increased the value of the book, both in expungings and additions.—*Western Lancet*, Jan. 1857.

The best American work on Midwifery that is accessible to the student and practitioner.—*N. W. Med. and Surg. Journal*, Jan. 1857.

This is a standard work by a great American Obstetrician. It is the third and last edition, and, in the language of the preface, the author has "brought the subject up to the latest dates of real improvement in our art and Science."—*Nashville Journ. of Med. and Surg.*, May, 1857.

BY THE SAME AUTHOR. (*Just Issued.*)

WOMAN: HER DISEASES AND THEIR REMEDIES. A Series of Lectures to his Class. Fourth and Improved edition.

In one large and beautifully printed octavo volume, leather, of over 700 pages. $3 60.

The gratifying appreciation of his labors, as evinced by the exhaustion of three large impressions of this work has not been lost upon the author, who has endeavored in every way to render it worthy of the favor with which it has been received. The opportunity thus afforded for another revision has been improved, and the work is now presented as in every way superior to its predecessors, additions and alterations having been made whenever the advance of science has rendered them desirable. The typographical execution of the work will also be found to have undergone a similar improvement, and the volume, it is hoped, will be found in all respects worthy to maintain its position as the standard American text-book on the Diseases of Females.

A few notices of the previous editions are appended.

In other respects, in our estimation, too much cannot be said in praise of this work. It abounds with beautiful passages, and for conciseness, for originality, and for all that is commendable in a work on the diseases of females, it is not excelled, and probably not equalled in the English language. On the whole, we know of no work on the diseases of women which we can so cordially commend to the student and practitioner as the one before us.—*Ohio Med. and Surg. Journal.*

The body of the book is worthy of attentive consideration, and is evidently the production of a clever, thoughtful, and sagacious physician. Dr. Meigs's letters on the diseases of the external organs, contain many interesting and rare cases, and many instructive observations. We take our leave of Dr. Meigs, with a high opinion of his talents and originality.—*The British and Foreign Medico-Chirurgical Review.*

Every chapter is replete with practical instruction, and bears the impress of being the composition of an acute and experienced mind. There is a terseness, and at the same time an accuracy in his description of symptoms, and in the rules for diagnosis, which cannot fail to recommend the volume to the attention of the reader.—*Ranking's Abstract.*

It contains a vast amount of practical knowledge, by one who has accurately observed and retained the experience of many years, and who tells the result in a free, familiar, and pleasant manner.—*Dublin Quarterly Journal.*

Full of important matter, conveyed in a ready and agreeable manner.—*St. Louis Med. and Surg. Jour.*

There is an off-hand fervor, a glow, and a warm-heartedness infecting the effort of Dr. Meigs, which is entirely captivating, and which absolutely hurries the reader through from beginning to end. Besides, the book teems with solid instruction, and it shows the very highest evidence of ability, viz., the clearness with which the information is presented. We know of no better test of one's understanding a subject than the evidence of the power of lucidly explaining it. The most elementary, as well as the obscurest subjects, under the pencil of Prof. Meigs, are isolated and made to stand out in such bold relief, as to produce distinct impressions upon the mind and memory of the reader.—*The Charleston Med. Journal.*

Professor Meigs has enlarged and amended this great work, for such it unquestionably is, having passed the ordeal of criticism at home and abroad, but been improved thereby; for in this new edition the author has introduced real improvements, and increased the value and utility of the book immeasurably. It presents so many novel, bright, and sparkling thoughts; such an exuberance of new ideas on almost every page, that we confess ourselves to have become enamored with the book and its author; and cannot withhold our congratulations from our Philadelphia confreres, that such a teacher is in their service.—*N. Y. Med. Gazette.*

BY THE SAME AUTHOR.

ON THE NATURE, SIGNS, AND TREATMENT OF CHILDBED FEVER.

In a Series of Letters addressed to the Students of his Class. In one handsome octavo volume, extra cloth, of 365 pages. $2 50.

The instructive and interesting author of this work, whose previous labors in the department of medicine which he so sedulously cultivates, have placed his countrymen under deep and abiding obligations, again challenges their admiration in the fresh and vigorous, attractive and racy pages before us. It is a delectable book. * * * This treatise upon child-bed fevers will have an extensive sale, being destined, as it deserves, to find a place in the library of every practitioner who scorns to lag in the rear.—*Nashville Journal of Medicine and Surgery.*

BY THE SAME AUTHOR; WITH COLORED PLATES.

A TREATISE ON ACUTE AND CHRONIC DISEASES OF THE NECK OF THE UTERUS.

With numerous plates, drawn and colored from nature in the highest style of art. In one handsome octavo volume, extra cloth. $4 50.

MACLISE (JOSEPH), SURGEON.

SURGICAL ANATOMY. Forming one volume, very large imperial quarto. With sixty-eight large and splendid Plates, drawn in the best style and beautifully colored. Containing one hundred and ninety Figures, many of them the size of life. Together with copious and explanatory letter-press. Strongly and handsomely bound in extra cloth, being one of the cheapest and best executed Surgical works as yet issued in this country. $11 00.

*** The size of this work prevents its transmission through the post-office as a whole, but those who desire to have copies forwarded by mail, can receive them in five parts, done up in stout wrappers. Price $9 00.

One of the greatest artistic triumphs of the age in Surgical Anatomy.—*British American Medical Journal.*

Too much cannot be said in its praise; indeed, we have not language to do it justice.—*Ohio Medical and Surgical Journal.*

The most admirable surgical atlas we have seen. To the practitioner deprived of demonstrative dissections upon the human subject, it is an invaluable companion.—*N. J. Medical Reporter.*

The most accurately engraved and beautifully colored plates we have ever seen in an American book—one of the best and cheapest surgical works ever published.—*Buffalo Medical Journal.*

It is very rare that so elegantly printed, so well illustrated, and so useful a work, is offered at so moderate a price.—*Charleston Medical Journal.*

Its plates can boast a superiority which places them almost beyond the reach of competition.—*Medical Examiner.*

A work which has no parallel in point of accuracy and cheapness in the English language.—*N. Y. Journal of Medicine.*

Country practitioners will find these plates of immense value.—*N. Y. Medical Gazette.*

We are extremely gratified to announce to the profession the completion of this truly magnificent work, which, as a whole, certainly stands unrivalled, both for accuracy of drawing, beauty of coloring, and all the requisite explanations of the subject in hand.—*The New Orleans Medical and Surgical Journal.*

This is by far the ablest work on Surgical Anatomy that has come under our observation. We know of no other work that would justify a student, in any degree, for neglect of actual dissection. In those sudden emergencies that so often arise, and which require the instantaneous command of minute anatomical knowledge, a work of this kind keeps the details of the dissecting-room perpetually fresh in the memory.—*The Western Journal of Medicine and Surgery.*

MILLER (HENRY), M. D.,

Professor of Obstetrics and Diseases of Women and Children in the University of Louisville.

PRINCIPLES AND PRACTICE OF OBSTETRICS, &c.; including the Treatment of Chronic Inflammation of the Cervix and Body of the Uterus considered as a frequent cause of Abortion. With about one hundred illustrations on wood. In one very handsome octavo volume, of over 600 pages. (*Lately Published.*) $3 75.

The reputation of Dr. Miller as an obstetrician is too widely spread to require the attention of the profession to be specially called to a volume containing the experience of his long and extensive practice. The very favorable reception accorded to his "Treatise on Human Parturition," issued some years since, is an earnest that the present work will fulfil the author's intention of providing within a moderate compass a complete and trustworthy text-book for the student, and book of reference for the practitioner.

We congratulate the author that the task is done. We congratulate him that he has given to the medical public a work which will secure for him a high and permanent position among the standard authorities on the principles and practice of obstetrics. Congratulations are not less due to the medical profession of this country, on the acquisition of a treatise embodying the results of the studies, reflections, and experience of Prof. Miller. Few men, if any, in this country, are more competent than he to write on this department of medicine. Engaged for thirty-five years in an extended practice of obstetrics, for many years a teacher of this branch of instruction in one of the largest of our institutions, a diligent student as well as a careful observer, an original and independent thinker, wedded to no hobbies, ever ready to consider without prejudice new views, and to adopt innovations if they are really improvements, and withal a clear, agreeable writer, a practical treatise from his pen could not fail to possess great value.—*Buffalo Med. Journal*, Mar. 1858.

In fact, this volume must take its place among the standard systematic treatises on obstetrics; a position to which its merits justly entitle it. The style is such that the descriptions are clear, and each subject is discussed and elucidated with due regard to its practical bearings, which cannot fail to make it acceptable and valuable to both students and practitioners. We cannot, however, close this brief notice without congratulating the author and the profession on the production of such an excellent treatise. The author is a western man of whom we feel proud, and we cannot but think that his book will find many readers and warm admirers wherever obstetrics is taught and studied as a science and an art.—*The Cincinnati Lancet and Observer*, Feb. 1858.

A most respectable and valuable addition to our home medical literature, and one reflecting credit alike on the author and the institution to which he is attached. The student will find in this work a most useful guide to his studies; the country practitioner, rusty in his reading, can obtain from its pages a fair résumé of the modern literature of the science; and we hope to see this American production generally consulted by the profession.—*Va. Med. Journal*, Feb. 1858.

MACKENZIE (W.), M. D.,

Surgeon Oculist in Scotland in ordinary to Her Majesty, &c. &c.

A PRACTICAL TREATISE ON DISEASES AND INJURIES OF THE EYE. To which is prefixed an Anatomical Introduction explanatory of a Horizontal Section of the Human Eyeball, by THOMAS WHARTON JONES, F. R. S. From the Fourth Revised and Enlarged London Edition. With Notes and Additions by ADDINELL HEWSON, M. D., Surgeon to Wills Hospital, &c. &c. In one very large and handsome octavo volume, leather, raised bands, with plates and numerous wood-cuts. $5 25.

The treatise of Dr. Mackenzie indisputably holds the first place, and forms, in respect of learning and research, an Encyclopædia unequalled in extent by any other work of the kind, either English or foreign. —*Dixon on Diseases of the Eye.*

Few modern books on any department of medicine or surgery have met with such extended circulation, or have procured for their authors a like amount of European celebrity. The immense research which [illegible] able manner in which the author's stores of learning and experience were rendered available for general use, at once procured for the first edition, as well on the continent as in this country, that high position as a standard work which each successive edition has more firmly established. We consider it the duty of every one who has the love of his profession and the welfare of his patient at heart, to make himself familiar with this the most complete work in the English language upon the diseases of the eye.

MILLER (JAMES), F. R. S. E.,

Professor of Surgery in the University of Edinburgh, &c.

PRINCIPLES OF SURGERY. Fourth American, from the third and revised Edinburgh edition. In one large and very beautiful volume, leather, of 700 pages, with two hundred and forty illustrations on wood. $3 75.

The work of Mr. Miller is too well and too favorably known among us, as one of our best text-books, to render any further notice of it necessary than the announcement of a new edition, the *fourth* in our country, a proof of its extensive circulation among us. As a concise and reliable exposition of the science of modern surgery, it stands deservedly high—we know not its superior.—*Boston Med. and Surg. Journal.*

The work takes rank with Watson's Practice of Physic; it certainly does not fall behind that great work in soundness of principle or depth of reasoning and research. No physician who values his reputation, or seeks the interests of his clients, can acquit himself before his God and the world without making himself familiar with the sound and philosophical views developed in the foregoing book.—*New Orleans Med. and Surg. Journal.*

BY THE SAME AUTHOR. (*Just Issued.*)

THE PRACTICE OF SURGERY. Fourth American from the last Edinburgh edition. Revised by the American editor. Illustrated by three hundred and sixty-four engravings on wood. In one large octavo volume, leather, of nearly 700 pages. $3 75.

No encomium of ours could add to the popularity of Miller's Surgery. Its reputation in this country is unsurpassed by that of any other work, and, when taken in connection with the author's *Principles of Surgery*, constitutes a whole, without reference to to which no conscientious surgeon would be willing practice his art.—*Southern Med. and Surg. Journal.*

It is seldom that two volumes have ever made so profound an impression in so short a time as the "Principles" and the "Practice" of Surgery by Mr. Miller—or so richly merited the reputation they have acquired. The author is an eminently sensible, practical, and well-informed man, who knows exactly what he is talking about and exactly how to talk it.—*Kentucky Medical Recorder.*

By the almost unanimous voice of the profession, his works, both on the principles and practice of surgery have been assigned the highest rank. If we were limited to but one work on surgery, that one should be Miller's, as we regard it as superior to all others.—*St. Louis Med. and Surg. Journal.*

The author has in this and his "Principles," presented to the profession one of the most complete and reliable systems of Surgery extant. His style of writing is original, impressive, and engaging, energetic, concise, and lucid. Few have the faculty of condensing so much in small space, and at the same time so persistently holding the attention. Whether as a text-book for students or a book of reference for practitioners, it cannot be too strongly recommended.—*Southern Journal of Med. and Physical Sciences.*

MORLAND (W. W.), M. D.

Fellow of the Massachusetts Medical Society, &c.

DISEASES OF THE URINARY ORGANS; a Compendium of their Diagnosis, Pathology, and Treatment. With illustrations. In one large and handsome octavo volume, of about 600 pages, extra cloth. (*Just Issued.*) $3 50.

Taken as a whole, we can recommend Dr. Morland's compendium as a very desirable addition to the library of every medical or surgical practitioner.—*Brit and For. Med.-Chir. Rev.*, April, 1859

Every medical practitioner whose attention has been to any extent attracted towards the class of diseases to which this treatise relates, must have often and sorely experienced the want of some full, yet concise recent compendium to which he could refer. This desideratum has been supplied by Dr. Morland, and it has been ably done. He has placed before us a full, judicious, and reliable digest. Each subject is treated with sufficient minuteness, yet in a succinct, narrational style, such as to render the work one of great interest, and one which will prove in the highest degree useful to the general practitioner. To the members of the profession in the country it will be peculiarly valuable, on account of the characteristics which we have mentioned, and the one broad aim of practical utility which is kept in view, and which shines out upon every page, together with the skill which is evinced in the combination of this grand requisite with the utmost brevity which a just treatment of the subjects would admit.—*N. Y. Journ. of Medicine*, Nov. 1858.

MONTGOMERY (W. F.), M. D., M. R. I. A., &c.,

Professor of Midwifery in the King and Queen's College of Physicians in Ireland, &c.

AN EXPOSITION OF THE SIGNS AND SYMPTOMS OF PREGNANCY. With some other Papers on Subjects connected with Midwifery. From the second and enlarged English edition. With two exquisite colored plates, and numerous wood-cuts. In one very handsome octavo volume, extra cloth, of nearly 600 pages. (*Lately Published.*) $3 75.

A book unusually rich in practical suggestions.—*Am. Journal Med. Sciences*, Jan. 1857.

These several subjects so interesting in themselves, and so important, every one of them, to the most delicate and precious of social relations, controlling often the honor and domestic peace of a family, the legitimacy of offspring, or the life of its parent, are all treated with an elegance of diction, fulness of illustrations, acuteness and justice of reasoning, unparalleled in obstetrics, and unsurpassed in medicine. The reader's interest can never flag, so fresh, and vigorous, and classical is our author's style; and one forgets, in the renewed charm of every page, that it, and every line, and every word has been weighed and reweighed through years of preparation; that this is of all others the book of Obstetric Law, on each of its several topics; on all points connected with pregnancy, to be everywhere received as a manual of special jurisprudence, at once announcing fact, affording argument, establishing precedent, and governing alike the juryman, advocate, and judge. It is not merely in its legal relations that we find this work so interesting. Hardly a page but that has its hints or facts important to the general practitioner; and not a chapter without especial matter for the anatomist, physiologist, or pathologist.—*N. A. Med.-Chir. Review*, March, 1857.

MOHR (FRANCIS), PH. D., AND REDWOOD (THEOPHILUS).

PRACTICAL PHARMACY. Comprising the Arrangements, Apparatus, and Manipulations of the Pharmaceutical Shop and Laboratory. Edited, with extensive Additions, by Prof. WILLIAM PROCTER, of the Philadelphia College of Pharmacy. In one handsomely printed octavo volume, extra cloth, of 570 pages, with over 500 engravings on wood. $2 75

NEILL (JOHN), M. D.,

Surgeon to the Pennsylvania Hospital, &c.; and

FRANCIS GURNEY SMITH, M. D.,

Professor of Institutes of Medicine in the Pennsylvania Medical College.

AN ANALYTICAL COMPENDIUM OF THE VARIOUS BRANCHES OF MEDICAL SCIENCE; for the Use and Examination of Students. A new edition, revised and improved. In one very large and handsomely printed royal 12mo. volume, of about one thousand pages, with 374 wood-cuts. Strongly bound in leather, with raised bands. $3 00.

The very flattering reception which has been accorded to this work, and the high estimate placed upon it by the profession, as evinced by the constant and increasing demand which has rapidly exhausted two large editions, have stimulated the authors to render the volume in its present revision more worthy of the success which has attended it. It has accordingly been thoroughly examined, and such errors as had on former occasions escaped observation have been corrected, and whatever additions were necessary to maintain it on a level with the advance of science have been introduced. The extended series of illustrations has been still further increased and much improved, while, by a slight enlargement of the page, these various additions have been incorporated without increasing the bulk of the volume.

The work is, therefore, again presented as eminently worthy of the favor with which it has hitherto been received. As a book for daily reference by the student requiring a guide to his more elaborate text-books, as a manual for preceptors desiring to stimulate their students by frequent and accurate examination, or as a source from which the practitioners of older date may easily and cheaply acquire a knowledge of the changes and improvement in professional science, its reputation is permanently established.

The best work of the kind with which we are acquainted.—*Med. Examiner.*

Having made free use of this volume in our examinations of pupils, we can speak from experience in recommending it as an admirable compend for students, and as especially useful to preceptors who examine their pupils. It will save the teacher much labor by enabling him readily to recall all of the points upon which his pupils should be examined. A work of this sort should be in the hands of every one who takes pupils into his office with a view of examining them; and this is unquestionably the best of its class.—*Transylvania Med. Journal.*

In the rapid course of lectures, where work for the students is heavy, and review necessary for an examination, a compend is not only valuable, but it is almost a *sine qua non*. The one before us is, in most of the divisions, the most unexceptionable of all books of the kind that we know of. The newest and soundest doctrines and the latest improvements and discoveries are explicitly, though concisely, laid before the student. There is a class to whom we very sincerely commend this cheap book as worth its weight in silver—that class is the graduates in medicine of more than ten years' standing, who have not studied medicine since. They will perhaps find out from it that the science is not exactly now what it was when they left it off.—*The Stethoscope.*

NEILL (JOHN), M. D.,

Professor of Surgery in the Pennsylvania Medical College, &c.

OUTLINES OF THE NERVES. With handsome plates. 1 vol., cloth. $1 25.

NELIGAN (J. MOORE), M. D., M. R. I. A., &c.

(A splendid work. Just Issued.)

ATLAS OF CUTANEOUS DISEASES. In one beautiful quarto volume, extra cloth, with splendid colored plates, presenting nearly one hundred elaborate representations of disease. $4 50.

This beautiful volume is intended as a complete and accurate representation of all the varieties of Diseases of the Skin. While it can be consulted in conjunction with any work on Practice, it has especial reference to the author's "Treatise on Diseases of the Skin," so favorably received by the profession some years since. The publishers feel justified in saying that few more beautifully executed plates have ever been presented to the profession of this country.

A compend which will very much aid the practitioner in this difficult branch of diagnosis. Taken with the beautiful plates of the Atlas, which are remarkable for their accuracy and beauty of coloring, it constitutes a very valuable addition to the library of a practical man.—*Buffalo Med. Journal*, Sept. 1856.

Nothing is often more difficult than the diagnosis of disease of the skin; and hitherto, the only works containing illustrations have been at rather inconvenient prices—prices, indeed, that prevented general use. The work before us will supply a want long felt, and minister to a more perfect acquaintance with the nature and treatment of a very frequent and troublesome form of disease.—*Ohio Med. and Surg. Journal*, July, 1856.

Neligan's Atlas of Cutaneous Diseases supplies a long existent desideratum much felt by the largest class of our profession. It presents, in quarto size, 16 plates, each containing from 3 to 6 figures, and forming in all a total of 90 distinct representations of the different species of skin affections, grouped together in genera or families. The illustrations have been taken from nature, and have been copied with such fidelity that they present a striking picture of life; in which the reduced scale aptly serves to give, at a *coup d'œil*, the remarkable peculiarities of each individual variety. And while thus the disease is rendered more definable, there is yet no loss of proportion incurred by the necessary concentration. Each figure is highly colored, and so truthful has the artist been that the most fastidious observer could not justly take exception to the correctness of the execution of the pictures under his scrutiny.—*Montreal Med. Chronicle.*

BY THE SAME AUTHOR.

A PRACTICAL TREATISE ON DISEASES OF THE SKIN. Second American edition. In one neat royal 12mo. volume, extra cloth, of 334 pages. $1 00.

☞ The two volumes will be sent by mail on receipt of *Five Dollars.*

OWEN ON THE DIFFERENT FORMS OF THE SKELETON AND OF THE TEETH. One vol. royal 12mo., extra cloth, with numerous illustrations. $1 25.

PARRISH (EDWARD),

Lecturer on Practical Pharmacy and Materia Medica in the Pennsylvania Academy of Medicine, &c.

AN INTRODUCTION TO PRACTICAL PHARMACY. Designed as a Text-Book for the Student, and as a Guide for the Physician and Pharmaceutist.

With many Formulæ and Prescriptions. Second edition, greatly enlarged and improved. In one handsome octavo volume of 720 pages, with several hundred Illustrations, extra cloth. $3 50. (*Now Ready.*)

During the short time in which this work has been before the profession, it has been received with very great favor, and in assuming the position of a standard authority, it has filled a vacancy which had been severely felt. Stimulated by this encouragement, the author, in availing himself of the opportunity of revision, has spared no pains to render it more worthy of the confidence bestowed upon it, and his assiduous labors have made it rather a new book than a new edition, many portions having been rewritten, and much new and important matter added. These alterations and improvements have been rendered necessary by the rapid progress made by pharmaceutical science during the last few years, and by the additional experience obtained in the practical use of the volume as a text-book and work of reference. To accommodate these improvements, the size of the page has been materially enlarged, and the number of pages considerably increased, presenting in all nearly *one-half more* matter than the last edition. The work is therefore now presented as a complete exponent of the subject in its most advanced condition. From the most ordinary matters in the dispensing office, to the most complicated details of the vegetable alkaloids, it is hoped that everything requisite to the practising physician, and to the apothecary, will be found fully and clearly set forth, and that the new matter alone will be worth more than the very moderate cost of the work to those who have been consulting the previous edition.

That Edward Parrish, in writing a book upon *practical* Pharmacy some few years ago—one eminently original and unique—did the medical and pharmaceutical professions a great and valuable service, no one, we think, who has had access to its pages will deny; doubly welcome, then, is this new edition, containing the added results of his recent and rich experience as an observer, teacher, and practical operator in the pharmaceutical laboratory. The excellent plan of the first is more thoroughly, and in detail, carried out in this edition.—*Peninsular Med. Journal*, Jan. 1860.

We know of no work on the subject which would be more indispensable to the physician or student desiring information on the subject of which it treats. With Griffith's "Medical Formulary" and this, the practising physician would be supplied with nearly or quite all the most useful information on the subject.—*Charleston Med. Journal and Review*, Jan. 1860.

This edition, now much enlarged, is one of the most useful works of the past year.—*N. O. Med. and Surg. Journal*, Jan. 1860.

The whole treatise is eminently practical; and there is no production of the kind in the English language so well adapted to the wants of the pharmaceutist and druggist. To physicians, also, it cannot fail to be highly valuable, especially to those who are obliged to prepare and compound many of their own medicines.—*N. Am. Med. Chir. Review*, Jan. 1860.

Of course, all apothecaries who have not already a copy of the first edition will procure one of this; it is, therefore, to physicians residing in the country and in small towns, who cannot avail themselves of the skill of an educated pharmaceutist, that we would especially commend this work. In it they will find all that they desire to know, and should know, but very little of which they do really know in reference to this important collateral branch of their profession; for it is a well established fact, that, in the education of physicians, while the science of medicine is generally well taught, very little attention is paid to the art of preparing them for use, and we know not how this defect can be so well remedied as by procuring and consulting Dr. Parrish's excellent work.—*St. Louis Med. Journal*, Jan. 1860.

PEASLEE (E. R.), M. D.,

Professor of Physiology and General Pathology in the New York Medical College.

HUMAN HISTOLOGY, in its relations to Anatomy, Physiology, and Pathology;

for the use of Medical Students. With four hundred and thirty-four illustrations. In one handsome octavo volume, of over 600 pages. (*Lately Published.*) $3 75.

It embraces a library upon the topics discussed within itself, and is just what the teacher and learner need. Another advantage, by no means to be overlooked, everything of real value in the wide range which it embraces, is with great skill compressed into an octavo volume of but little more than six hundred pages. We have not only the whole subject of Histology, interesting in itself, ably and fully discussed, but what is of infinitely greater interest to the student, because of greater practical value, are its relations to Anatomy, Physiology, and Pathology, which are here fully and satisfactorily set forth. These great supporting branches of practical medicine are thus linked together, and while establishing and illustrating each other, are interwoven into a harmonious whole. We commend the work to students and physicians generally.—*Nashville Journ. of Med. and Surgery*, Dec. 1857.

It far surpasses our expectation. We never conceived the possibility of compressing so much valuable information into so compact a form. We will not consume space with commendations. We receive this contribution to physiological science, "Not with vain thanks, but with acceptance bounteous." We have already paid it the practical compliment of making abundant use of it in the preparation of our lectures, and also of recommending its further perusal most cordially to our alumni; a recommendation which we now extend to our readers.—*Memphis Med. Recorder*, Jan. 1858.

We would recommend it to the medical student and practitioner, as containing a summary of all that is known of the important subjects which it treats; of all that is contained in the great works of Simon and Lehmann, and the organic chemists in general. Master this one volume, we would say to the medical student and practitioner—master this book and you know all that is known of the great fundamental principles of medicine, and we have no hesitation in saying that it is an honor to the American medical profession that one of its members should have produced it.—*St. Louis Med. and Surg. Journal*, March, 1858.

PEREIRA (JONATHAN), M. D., F. R. S., AND L. S.

THE ELEMENTS OF MATERIA MEDICA AND THERAPEUTICS.

Third American edition, enlarged and improved by the author; including Notices of most of the Medicinal Substances in use in the civilized world, and forming an Encyclopædia of Materia Medica. Edited, with Additions, by JOSEPH CARSON, M. D., Professor of Materia Medica and Pharmacy in the University of Pennsylvania. In two very large octavo volumes of 2100 pages, on small type, with about 500 illustrations on stone and wood, strongly bound in leather, with raised bands. $9 00.

PIRRIE (WILLIAM), F. R. S. E.,

Professor of Surgery in the University of Aberdeen.

THE PRINCIPLES AND PRACTICE OF SURGERY. Edited by JOHN NEILL, M. D., Professor of Surgery in the Penna. Medical College, Surgeon to the Pennsylvania Hospital, &c. In one very handsome octavo volume, leather, of 780 pages, with 316 illustrations. $3 75.

We know of no other surgical work of a reasonable size, wherein there is so much theory and practice, or where subjects are more soundly or clearly taught.—*The Stethoscope.*

Prof. Pirrie, in the work before us, has elaborately discussed the principles of surgery, and a safe and effectual practice predicated upon them. Perhaps no work upon this subject heretofore issued is so full upon the science of the art of surgery.—*Nashville Journal of Medicine and Surgery.*

PARKER (LANGSTON),

Surgeon to the Queen's Hospital, Birmingham.

THE MODERN TREATMENT OF SYPHILITIC DISEASES, BOTH PRIMARY AND SECONDARY; comprising the Treatment of Constitutional and Confirmed Syphilis, by a safe and successful method. With numerous Cases, Formulæ, and Clinical Observations. From the Third and entirely rewritten London edition. In one neat octavo volume extra cloth, of 316 pages. $1 75.

RICORD (P.), M. D.

A TREATISE ON THE VENEREAL DISEASE. By JOHN HUNTER, F. R. S.

With copious Additions, by PH. RICORD, M. D. Translated and Edited, with Notes, by FREEMAN J. BUMSTEAD. M. D, Lecturer on Venereal at the College of Physicians and Surgeons, New York. Second edition, revised, containing a *résumé* of RICORD'S RECENT LECTURES ON CHANCRE. In one handsome octavo volume, extra cloth, of 550 pages, with eight plates. $3 25. (*Now Ready.*)

In revising this work, the editor has endeavored to introduce whatever matter of interest the recent investigations of syphilographers have added to our knowledge of the subject. The principal source from which this has been derived is the volume of "Lectures on Chancre," published a few months since by M. Ricord, which affords a large amount of new and instructive material on many controverted points. In the previous edition, M. Ricord's additions amounted to nearly one-third of the whole, and with the matter now introduced, the work may be considered to present his views and experience more thoroughly and completely than any other. The value of the original treatise of Mr. Hunter is too well known to require praise. Perhaps no medical work in the English language has so thoroughly stood the test of time, or has so completely assumed the position of a classic, and a volume like the present, containing the united labors of the highest authorities on so difficult and important a subject, becomes indispensable to all who desire to keep themselves on a level with the progress of medical science.

Every one will recognize the attractiveness and value which this work derives from thus presenting the opinions of these two masters side by side. But, it must be admitted, what has made the fortune of the book, is the fact that it contains the "most complete embodiment of the veritable doctrines of the Hôpital du Midi," which has ever been made public. The doctrinal ideas of M. Ricord, ideas which, if not universally adopted, are incontestably dominant, have heretofore only been interpreted by more or less skilful secretaries, sometimes accredited and sometimes not.

In the notes to Hunter, the master substitutes himself for his interpreters, and gives his original thoughts to the world in a lucid and perfectly intelligible manner. In conclusion we can say that this is incontestably the best treatise on syphilis with which we are acquainted, and, as we do not often employ the phrase, we may be excused for expressing the hope that it may find a place in the library of every physician.—*Virginia Med. and Surg. Journal.*

BY THE SAME AUTHOR.

RICORD'S LETTERS ON SYPHILIS. Translated by W. P. LATTIMORE, M. D.

In one neat octavo volume, of 270 pages, extra cloth. $2 00.

ROKITANSKY (CARL), M. D.,

Curator of the Imperial Pathological Museum, and Professor at the University of Vienna, &c.

A MANUAL OF PATHOLOGICAL ANATOMY. Four volumes, octavo, bound in two, extra cloth, of about 1200 pages. Translated by W. E. SWAINE, EDWARD SIEVEKING, C. H. MOORE, and G. E. DAY. $5 50

The profession is too well acquainted with the reputation of Rokitansky's work to need our assurance that this is one of the most profound, thorough, and valuable books ever issued from the medical press. It is *sui generis*, and has no standard of comparison. It is only necessary to announce that it is issued in a form as cheap as is compatible with its size and preservation, and its sale follows as a matter of course. No library can be called complete without it.—*Buffalo Med. Journal.*

An attempt to give our readers any adequate idea of the vast amount of instruction accumulated in these volumes, would be feeble and hopeless. The effort of the distinguished author to concentrate in a small space his great fund of knowledge, has so charged his text with valuable truths, that any attempt of a reviewer to epitomize is at once paralyzed, and must end in a failure.—*Western Lancet.*

As this is the highest source of knowledge upon the important subject of which it treats, no real student can afford to be without it. The American publishers have entitled themselves to the thanks of the profession of their country, for this timeous and beautiful edition.—*Nashville Journal of Medicine.*

As a book of reference, therefore, this work must prove of inestimable value, and we cannot too highly recommend it to the profession.—*Charleston Med. Journal and Review.*

This book is a necessity to every practitioner.—*Am. Med. Monthly.*

RIGBY (EDWARD), M. D.,

Senior Physician to the General Lying-in Hospital, &c.

A SYSTEM OF MIDWIFERY. With Notes and Additional Illustrations.

Second American Edition. One volume octavo, extra cloth, 422 pages. $2 50.

BY THE SAME AUTHOR. (*Lately Published.*)

ON THE CONSTITUTIONAL TREATMENT OF FEMALE DISEASES.

RAMSBOTHAM (FRANCIS H.), M. D.

THE PRINCIPLES AND PRACTICE OF OBSTETRIC MEDICINE AND SURGERY, in reference to the Process of Parturition. A new and enlarged edition, thoroughly revised by the Author. With Additions by W. V. KEATING, M. D. In one large and handsome imperial octavo volume, of 650 pages, strongly bound in leather, with raised bands; with sixty-four beautiful Plates, and numerous Wood-cuts in the text, containing in all nearly two hundred large and beautiful figures. $5 00.

From Prof. Hodge, of the University of Pa.

To the American public, it is most valuable, from its intrinsic undoubted excellence, and as being the best authorized exponent of British Midwifery. Its circulation will, I trust, be extensive throughout our country.

The publishers have shown their appreciation of the merits of this work and secured its success by the truly elegant style in which they have brought it out, excelling themselves in its production, especially in its plates. It is dedicated to Prof. Meigs, and has the emphatic endorsement of Prof. Hodge, as the best exponent of British Midwifery. We know of no text-book which deserves in all respects to be more highly recommended to students, and we could wish to see it in the hands of every practitioner, for they will find it invaluable for reference.—*Med. Gazette.*

We welcome Ramsbotham's Principles and Practice of Obstetric Medicine and Surgery to our library, and confidently recommend it to our readers, with the assurance that it will not disappoint their most sanguine expectations.—*Western Lancet.*

It is unnecessary to say anything in regard to the utility of this work. It is already appreciated in our country for the value of the matter, the clearness of its style, and the fulness of its illustrations. To the physician's library it is indispensable, while to the student as a text-book, from which to extract the material for laying the foundation of an education on obstetrical science, it has no superior.—*Ohio Med. and Surg. Journal.*

We will only add that the student will learn from it all he need to know, and the practitioner will find it, as a book of reference, surpassed by none other.—*Stethoscope.*

The character and merits of Dr. Ramsbotham's work are so well known and thoroughly established, that comment is unnecessary and praise superfluous. The illustrations, which are numerous and accurate, are executed in the highest style of art. We cannot too highly recommend the work to our readers.—*St. Louis Med. and Surg. Journal.*

ROYLE'S MATERIA MEDICA AND THERAPEUTICS; including the Preparations of the Pharmacopœias of London, Edinburgh, Dublin, and of the United States. With many new medicines. Edited by JOSEPH CARSON, M. D. With ninety-eight illustrations. In one large octavo volume, extra cloth, of about 700 pages. $3 00.

STILLE (ALFRED), M. D.

THERAPEUTICS AND MATERIA MEDICA; a Systematic Treatise on the History, Description, Action, and Uses of Medicinal Agents. In two large and handsome octavo volumes, of over 1700 pages. (*Now Ready, January*, 1860.) $8 00.

The object which the author has kept in view in the preparation of this work has been to present to the profession a complete and systematic treatise suited to the wants of the practising physician. He has therefore endeavored to avoid encumbering his text with details interesting only to the naturalist or the dealer, and has sought to give in the history and description of drugs such information only as would be required by the intelligent practitioner. The space thus gained he has endeavored to fill with a complete account of the physiological and therapeutic properties of all the articles of the Materia Medica, their uses in all the varieties of disease, their pharmacopœial preparations, and the mode in which they may be most successfully employed. The subject of General Therapeutics will be found more fully developed than is customary in works of this nature; but while general principles will be carefully enunciated and developed, mere theoretical speculations will be avoided. The labor of many years devoted to the work has enabled the author to accumulate and record the results of the experience of the highest authorities in all countries, and his watchful care in incorporating the latest observations and researches is a guarantee that the whole will be found fully brought up to the day, with all that may be regarded as worthy of confidence.

The work is therefore presented as a practical companion for the active physician who may desire to keep himself on a level with the advance of his profession, as well as a text-book for the student entering upon his medical education. The long delay which has occurred in its appearance has been caused by the determination of the author to spare no pains in rendering it complete on every point.

SMITH (HENRY H.), M. D.,

Professor of Surgery in the University of Pennsylvania, &c.

MINOR SURGERY; or, Hints on the Every-day Duties of the Surgeon. Illustrated by two hundred and forty-seven illustrations. Third and enlarged edition. In one handsome royal 12mo. volume. pp. 456. In leather, $2 25; extra cloth, $2 00.

BY THE SAME AUTHOR, AND

HORNER (WILLIAM E.), M. D.,

Late Professor of Anatomy in the University of Pennsylvania.

AN ANATOMICAL ATLAS, illustrative of the Structure of the Human Body. In one volume, large imperial octavo, extra cloth, with about six hundred and fifty beautiful figures. $3 00.

These figures are well selected, and present a complete and accurate representation of that wonderful fabric, the human body. The plan of this Atlas, which renders it so peculiarly convenient for the student, and its superb artistical execution, have been already pointed out. We must congratulate the student upon the completion of this Atlas, as it is the most convenient work of the kind that has yet appeared; and we must add, the very beautiful manner in which it is "got up" is so creditable to the country as to be flattering to our national pride.—*American Medical Journal*

SKEY'S OPERATIVE SURGERY. In one very handsome octavo volume, extra cloth, of over 650

STANLEY'S TREATISE ON DISEASES OF THE BONES. In one volume, octavo, extra cloth,

SHARPEY (WILLIAM), M. D., JONES QUAIN, M. D., AND RICHARD QUAIN, F. R. S., &c.

HUMAN ANATOMY. Revised, with Notes and Additions, by JOSEPH LEIDY, M. D., Professor of Anatomy in the University of Pennsylvania. Complete in two large octavo volumes, leather, of about thirteen hundred pages. Beautifully illustrated with over five hundred engravings on wood. $6 00.

SARGENT (F. W.), M. D.

ON BANDAGING AND OTHER OPERATIONS OF MINOR SURGERY. Second edition, enlarged. One handsome royal 12mo. vol., of nearly 400 pages, with 182 woodcuts. Extra cloth, $1 40; leather, $1 50.

Sargent's Minor Surgery has always been popular, and deservedly so. It furnishes that knowledge of the most frequently requisite performances of surgical art which cannot be entirely understood by attending clinical lectures. The art of bandaging, which is regularly taught in Europe, is very frequently overlooked by teachers in this country; the student and junior practitioner, therefore, may often require that knowledge which this little volume so tersely and happily supplies.—*Charleston Med. Journ. and Review*, March, 1856.

A work that has been so long and favorably known to the profession as Dr. Sargent's Minor Surgery, needs no commendation from us. We would remark, however, in this connection, that minor surgery seldom gets that attention in our schools that its importance deserves. Our larger works are also very defective in their teaching on these small practical points. This little book will supply the void which all must feel who have not studied its pages.—*Western Lancet*, March, 1856.

SMITH (W. TYLER), M. D.,

Physician Accoucheur to St. Mary's Hospital, &c.

ON PARTURITION, AND THE PRINCIPLES AND PRACTICE OF OBSTETRICS. In one royal 12mo. volume, extra cloth, of 400 pages. $1 25.

BY THE SAME AUTHOR.

A PRACTICAL TREATISE ON THE PATHOLOGY AND TREATMENT OF LEUCORRHŒA. With numerous illustrations. In one very handsome octavo volume, extra cloth, of about 250 pages. $1 50.

SOLLY ON THE HUMAN BRAIN; its Structure, Physiology, and Diseases. From the Second and much enlarged London edition. In one octavo volume, extra cloth, of 500 pages, with 120 woodcuts. $2 00.

SIMON'S GENERAL PATHOLOGY, as conducive to the Establishment of Rational Principles for the prevention and Cure of Disease. In one neat octavo volume, extra cloth, of 212 pages. $1 25.

TODD (ROBERT BENTLEY), M. D., F. R. S.,

Professor of Physiology in King's College, London; and

WILLIAM BOWMAN, F. R. S.,

Demonstrator of Anatomy in King's College, London.

THE PHYSIOLOGICAL ANATOMY AND PHYSIOLOGY OF MAN. With about three hundred large and beautiful illustrations on wood. Complete in one large octavo volume, of 950 pages, leather. Price $4 50.

☞ Gentlemen who have received portions of this work, as published in the "MEDICAL NEWS AND LIBRARY," can now complete their copies, if immediate application be made. It will be furnished as follows, free by mail, in paper covers, with cloth backs.

PARTS I., II., III. (pp. 25 to 552), $2 50.
PART IV. (pp. 553 to end, with Title, Preface, Contents, &c.), $2 00.
Or, PART IV., SECTION II. (pp. 725 to end, with Title, Preface, Contents, &c.), $1 25.

A magnificent contribution to British medicine, and the American physician who shall fail to peruse it, will have failed to read one of the most instructive books of the nineteenth century.—*N. O. Med. and Surg. Journal*, Sept. 1857.

It is more concise than Carpenter's Principles, and more modern than the accessible edition of Müller's Elements; its details are brief, but sufficient; its descriptions vivid; its illustrations exact and copious; and its language terse and perspicuous.—*Charleston Med. Journal*, July, 1857.

We know of no work on the subject of physiology so well adapted to the wants of the medical student. Its completion has been thus long delayed, that the authors might secure accuracy by personal observation.—*St. Louis Med. and Surg. Journal*, Sept. '57.

Our notice, though it conveys but a very feeble and imperfect idea of the magnitude and importance of the work now under consideration, already transcends our limits; and, with the indulgence of our readers, and the hope that they will peruse the book for themselves, as we feel we can with confidence recommend it, we leave it in their hands for them to judge of its merits.—*The Northwestern Med. and Surg. Journal*, Oct. 1857.

TODD (R. B.), M. D., F. R. S., &c.

CLINICAL LECTURES ON CERTAIN DISEASES OF THE URINARY ORGANS AND ON DROPSIES. In one octavo volume, 284 pages. $1 50.

BY THE SAME AUTHOR. (*Now Ready.*)

CLINICAL LECTURES ON CERTAIN ACUTE DISEASES. In one neat octavo volume, of 320 pages, extra cloth. $1 75.

The practical nature of Dr. Todd's writings is well known, and the present volume cannot fail to prove of much value to the practitioner, containing as it does his views of treatment respecting RHEUMATIC FEVER, CONTINUED FEVER, ACUTE INFLAMMATIONS, PYÆMIA, ERYSIPELAS OF THE FAUCES, PNEUMONIA, and its COMPLICATIONS, and other important subjects. It forms a neat octavo, to match its companion volume, recently published, of "Clinical Lectures on Diseases of the Urinary Organs and on Dropsies."

TAYLOR (ALFRED S.), M. D., F. R. S.,

Lecturer on Medical Jurisprudence and Chemistry in Guy's Hospital.

MEDICAL JURISPRUDENCE. Fourth American Edition. With Notes and References to American Decisions, by EDWARD HARTSHORNE, M. D. In one large octavo volume, leather, of over seven hundred pages. $3 00.

We know of no work on Medical Jurisprudence which contains in the same space anything like the same amount of valuable matter.—*N. Y. Journal of Medicine.*

No work upon the subject can be put into the hands of students either of law or medicine which will engage them more closely or profitably; and none could be offered to the busy practitioner of either calling, for the purpose of casual or hasty reference, that would be more likely to afford the aid desired. We therefore recommend it as the best and safest manual for daily use.—*American Journal of Medical Sciences.*

It is not excess of praise to say that the volume before us is the very best treatise extant on Medical Jurisprudence. In saying this, we do not wish to be understood as detracting from the merits of the excellent works of Beck, Ryan, Traill, Guy, and others; but in interest and value we think it must be conceded that Taylor is superior to anything that has preceded it.—*N. W. Medical and Surg. Journal.*

BY THE SAME AUTHOR. (*New Edition, now ready.*)

ON POISONS, IN RELATION TO MEDICAL JURISPRUDENCE AND MEDICINE. Second American, from a second and revised London edition. In one large octavo volume, of 755 pages, leather. $3 50.

The length of time which has elapsed since the first appearance of this work, has wrought so great a change in the subject, as to require a very thorough revision to adapt the volume to the present wants of the profession. The rapid advance of Chemistry has introduced into use many new substances which may become fatal through accident, carelessness, or design—while at the same time it has likewise designated new and more exact modes of counteracting or detecting those previously treated of. Mr. Taylor's position as the leading medical jurist of England, has during this period conferred on him extraordinary advantages in acquiring experience in all that relates to this department, nearly all cases of moment being referred to him for examination, as an expert whose testimony is generally accepted as final. The results of his labors, therefore, as gathered together in this volume, carefully weighed and sifted, and presented in the clear and intelligible style for which he is noted, may be received as an acknowledged authority, and as a guide to be followed with implicit confidence.

TANNER (T. H.), M. D.,

Physician to the Hospital for Women, &c.

A MANUAL OF CLINICAL MEDICINE AND PHYSICAL DIAGNOSIS. To which is added The Code of Ethics of the American Medical Association. Second American Edition. In one neat volume, small 12mo., extra cloth, 87½ cents.

The work is an honor to its writer, and must obtain a wide circulation by its intrinsic merit alone. Suited alike to the wants of students and practitioners, it has only to be seen, to win for itself a place upon the shelves of every medical library. —*Boston Med. and Surg. Journal.*

TOYNBEE (JOSEPH), F. R. S.,

Aural Surgeon to, and Lecturer on Surgery at, St. Mary's Hospital.

A PRACTICAL TREATISE ON DISEASES OF THE EAR; their Diagnosis, Pathology, and Treatment. Illustrated with one hundred engravings on wood. In one very handsome octavo volume, extra cloth, $3 00. (*Just Ready.*)

Mr. Toynbee's name is too widely known as the highest authority on all matters connected with Aural Surgery and Medicine, to require special attention to be called to anything which he may communicate to the profession on the subject. In the present work he has embodied the results of long and careful experience, derived from a practice for many years devoted to this department. It therefore cannot fail to prove a complete and trustworthy guide on all matters connected with this obscure and little known class of diseases, which so frequently embarrass the general practitioner.

The volume will be found thoroughly illustrated with a large number of original wood-engravings, elucidating the pathology of the organs of hearing, instruments, operations, &c., and in every respect will be one of the handsomest specimens of mechanical execution issued from the American press.

WILLIAMS (C. J. B.), M. D., F. R. S.,

Professor of Clinical Medicine in University College, London, &c.

PRINCIPLES OF MEDICINE. An Elementary View of the Causes, Nature, Treatment, Diagnosis, and Prognosis of Disease; with brief remarks on Hygienics, or the preservation of health. A new American, from the third and revised London edition. In one octavo volume, leather, of about 500 pages. $2 50. (*Just Issued.*)

We find that the deeply-interesting matter and style of this book have so far fascinated us, that we have unconsciously hung upon its pages, not too long, indeed, for our own profit, but longer than reviewers can be permitted to indulge. We leave the further analysis to the student and practitioner. Our judgment of the work has already been sufficiently expressed. It is a judgment of almost unqualified praise. The work is not of a controversial, but of a didactic character; and as such we hail it, and recommend it for a text-book, guide, and constant companion to every practitioner and every student who wishes to extricate himself from the well-worn ruts of empiricism, and to base his practice of medicine upon principles.—*London Lancet.*

A text-book to which no other in our language is comparable.—*Charleston Medical Journal.*

No work has ever achieved or maintained a more deserved reputation.—*Va. Med. and Surg. Journal.*

New and much enlarged edition—(Now Ready.)

WATSON (THOMAS), M. D., &c.

Late Physician to the Middlesex Hospital; &c.

LECTURES ON THE PRINCIPLES AND PRACTICE OF PHYSIC.

Delivered at King's College, London. A new American, from the last revised and enlarged English edition, with Additions, by D. Francis Condie, M. D., author of "A Practical Treatise on the Diseases of Children," &c. With one hundred and eighty-five illustrations on wood. In one very large and handsome volume, imperial octavo, of over 1200 closely printed pages in small type; the whole strongly bound in leather, with raised bands. Price $4 25.

The publishers feel that they are rendering a service to the American profession in presenting at so very moderate a price this vast body of sound practical information. Whether as a guide for the student entering on a course of instruction, or as a book of reference for daily consultation by the practitioner, "Watson's Practice" has long been regarded as second to none; the soundness and fulness of its teachings, the breadth and liberality of its views, and the easy and flowing style in which it is written having won for it the position of a general favorite. That this high reputation might be fully maintained, the author has subjected it to a thorough revision; every portion has been examined with the aid of the most recent researches in pathology, and the results of modern investigations in both theoretical and practical subjects have been carefully weighed and embodied throughout its pages. The watchful scrutiny of the editor has likewise introduced whatever possesses immediate importance to the American physician in relation to diseases incident to our climate which are little known in England, as well as those points in which experience here has led to different modes of practice; and he has also added largely to the series of illustrations, believing that in this manner valuable assistance may be conveyed to the student in elucidating the text. The work will, therefore, be found thoroughly on a level with the most advanced state of medical science on both sides of the Atlantic.

The additions which the work has received are shown by the fact that notwithstanding an enlargement in the size of the page, more than two hundred additional pages have been necessary to accommodate the two large volumes of the London edition (which sells at ten dollars), within the compass of a single volume, and in its present form it contains the matter of at least three ordinary octavos. Believing it to be a work which should lie on the table of every physician, and be in the hands of every student, the publishers have put it at a price within the reach of all, making it one of the cheapest books as yet presented to the American profession, while at the same time the beauty of its mechanical execution renders it an exceedingly attractive volume.

It would appear almost superfluous to adduce commendatory notices of a work which has so long been established in the position of a standard authority as "Watson's Practice." A few extracts are, however, subjoined from reviews of the new and improved edition.

The fourth edition now appears, so carefully revised, as to add considerably to the value of a book already acknowledged, wherever the English language is read, to be beyond all comparison the best systematic work on the Principles and Practice of Physic in the whole range of medical literature. Every lecture contains proof of the extreme anxiety of the author to keep pace with the advancing knowledge of the day, and to bring the results of the labors, not only of physicians, but of chemists and histologists, before his readers, wherever they can be turned to useful account. And this is done with such a cordial appreciation of the merit due to the industrious observer, such a generous desire to encourage younger and rising men, and such a candid acknowledgment of his own obligations to them, that one scarcely knows whether to admire most the pure, simple, forcible English—the vast amount of useful practical information condensed into the Lectures—or the manly, kind-hearted, unassuming character of the lecturer shining through his work.—*London Med. Times and Gazette*, Oct. 31, 1857.

Thus these admirable volumes come before the profession in their fourth edition, abounding in those distinguished attributes of moderation, judgment, erudite cultivation, clearness, and eloquence, with which they were from the first invested, but yet richer than before in the results of more prolonged observation, and in the able appreciation of the latest advances in pathology and medicine by one of the most profound medical thinkers of the day.—*London Lancet*, Nov. 14, 1857.

The lecturer's skill, his wisdom, his learning, are equalled by the ease of his graceful diction, his eloquence, and the far higher qualities of candor, of courtesy, of modesty, and of generous appreciation of merit in others. May he long remain to instruct us, and to enjoy, in the glorious sunset of his declining years, the honors, the confluence and love gained during his useful life.—*N. A. Med.-Chir. Review*, July, 1858.

Watson's unrivalled, perhaps unapproachable work on Practice—the copious additions made to which (the fourth edition) have given it all the novelty and much of the interest of a new book.—*Charleston Med. Journal*, July, 1858.

Lecturers, practitioners, and students of medicine will equally hail the reappearance of the work of Dr. Watson in the form of a new—a fourth—edition. We merely do justice to our own feelings, and, we are sure, of the whole profession, if we thank him for having, in the trouble and turmoil of a large practice, made leisure to supply the hiatus caused by the exhaustion of the publisher's stock of the third edition, which has been severely felt for the last three years. For Dr. Watson has not merely caused the lectures to be reprinted, but scattered through the whole work we find additions or alterations which prove that the author has in every way sought to bring up his teaching to the level of the most recent acquisitions in science.—*Brit. and For. Medico-Chir. Review*, Jan. 1858.

WILSON (ERASMUS), M. D., F. R. S.

Lecturer on Anatomy, London.

THE DISSECTOR'S MANUAL; or, Practical and Surgical Anatomy.

Third American, from the last revised and enlarged English edition. Modified and rearranged, by William Hunt, M. D., Demonstrator of Anatomy in the University of Pennsylvania. In one large and handsome royal 12mo. volume, leather, of 582 pages, with 154 illustrations. $2 00.

BY THE SAME AUTHOR.

ON CONSTITUTIONAL AND HEREDITARY SYPHILIS, AND ON SYPHILITIC ERUPTIONS.

In one small octavo volume, extra cloth, beautifully printed, with four exquisite colored plates, presenting more than thirty varieties of syphilitic eruptions. $2 25.

New and much enlarged edition—(Now Ready.)

WILSON (ERASMUS), F. R. S.,

A SYSTEM OF HUMAN ANATOMY, General and Special. A new and revised American, from the last and enlarged English Edition. Edited by W. H. GOBRECHT, M. D., Professor of Anatomy in the Philadelphia Medical College, &c. Illustrated with three hundred and ninety-seven engravings on wood. In one large and exquisitely printed octavo volume, of over 600 large pages; leather. $3 25.

The publishers trust that the well earned reputation so long enjoyed by this work will be more than maintained by the present edition. Besides a very thorough revision by the author, it has been most carefully examined by the editor, and the efforts of both have been directed to introducing everything which increased experience in its use has suggested as desirable to render it a complete text-book for those seeking to obtain or to renew an acquaintance with Human Anatomy. The amount of additions which it has thus received may be estimated from the fact that the present edition contains over one-fourth more matter than the last, rendering a smaller type and an enlarged page requisite to keep the volume within a convenient size. The author has not only thus added largely to the work, but he has also made alterations throughout, wherever there appeared the opportunity of improving the arrangement or style, so as to present every fact in its most appropriate manner, and to render the whole as clear and intelligible as possible. The editor has exercised the utmost caution to obtain entire accuracy in the text, and has largely increased the number of illustrations, of which there are about one hundred and fifty more in this edition than in the last, thus bringing distinctly before the eye of the student everything of interest or importance.

The publishers have felt that neither care nor expense should be spared to render the external finish of the volume worthy of the universal favor with which it has been received by the American profession, and they have endeavored consequently to produce in its mechanical execution an improvement corresponding with that which the text has enjoyed. It will therefore be found one of the handsomest specimens of typography as yet produced in this country, and in all respects suited to the office table of the practitioner, notwithstanding the exceedingly low price at which it has been placed.

It may be recommended to the student as no less distinguished by its accuracy and clearness of description than by its typographical elegance. The wood-cuts are exquisite.—*Brit. and For. Medical Review.*

An elegant edition of one of the most useful and accurate systems of anatomical science which has been issued from the press. The illustrations are really beautiful. In its style the work is extremely concise and intelligible. No one can possibly take up this volume without being struck with the great beauty of its mechanical execution, and the clearness of the descriptions which it contains is equally evident. Let students, by all means examine the claims of this work on their notice, before they purchase a text-book of the vitally important science which this volume so fully and easily unfolds.—*Lancet.*

We regard it as the best system now extant for students.—*Western Lancet.*

It therefore receives our highest commendation.—*Southern Med. and Surg. Journal.*

BY THE SAME AUTHOR. (*Just Issued.*)

ON DISEASES OF THE SKIN. Fourth and enlarged American, from the last and improved London edition. In one large octavo volume, of 650 pages, extra cloth, $2 75.

The writings of Wilson, upon diseases of the skin, are by far the most scientific and practical that have ever been presented to the medical world on this subject. The present edition is a great improvement on all its predecessors. To dwell upon all the great merits and high claims of the work before us, *seriatim*, would indeed be an agreeable service; it would be a mental homage which we could freely offer, but we should thus occupy an undue amount of space in this *Journal*. We will, however look at some of the more salient points with which it abounds, and which make it incomparably superior in excellence to all other treatises on the subject of dermatology. No mere speculative views are allowed a place in this volume, which, without a doubt, will, for a very long period, be acknowledged as the chief standard work on dermatology. The principles of an enlightened and rational therapeia are introduced on every appropriate occasion. The general practitioner and surgeon who, peradventure, may have for years regarded cutaneous maladies as scarcely worthy their attention, because, forsooth, they are not fatal in their tendency; or who, if they have attempted their cure, have followed the blind guidance of empiricism, will almost assuredly be roused to a new and becoming interest in this department of practice, through the inspiring agency of this book.—*Am. Jour. Med. Science*, Oct. 1857.

ALSO, NOW READY,

A SERIES OF PLATES ILLUSTRATING WILSON ON DISEASES OF THE SKIN; consisting of nineteen beautifully executed plates, of which twelve are exquisitely colored, presenting the Normal Anatomy and Pathology of the Skin, and containing accurate representations of about one hundred varieties of disease, most of them the size of nature. Price in cloth $4 25.

In beauty of drawing and accuracy and finish of coloring these plates will be found equal to anything of the kind as yet issued in this country.

One of the best specimens of colored lithographic illustrations that have ever been published in this country. The representations of diseases of the skin, even to the most minute shade of coloring, are remarkably accurate, giving the student or practitioner a very correct idea of the disease he is studying. We know of no work so well adapted to the wants of the general practitioner as Wilson's, with the accompanying plates. — *Med. and Surg. Reporter*, May, 1858.

We have already expressed our high appreciation of Mr. Wilson's treatise on Diseases of the Skin. The plates are comprised in a separate volume, which we counsel all those who possess the text to purchase. It is a beautiful specimen of color printing, and the representations of the various forms of skin disease are as faithful as is possible in plates of the size.—*Boston Med. and Surg. Journal*, April 8, 1858.

BY THE SAME AUTHOR.

HEALTHY SKIN; A Popular Treatise on the Skin and Hair, their Preservation and Management. Second American, from the fourth London edition. One neat volume, royal 12mo., extra cloth, of about 300 pages, with numerous illustrations. $1 00; paper cover, 75 cents.

WEST (CHARLES), M. D.,

Accoucheur to and Lecturer on Midwifery at St. Bartholomew's Hospital, Physician to the Hospital for Sick Children, &c.

LECTURES ON THE DISEASES OF WOMEN.

Now complete in one handsome octavo volume, extra cloth, of about 500 pages; price $2 50.

Also, for sale separate, PART II, being pp. 309 to end, with Index, Title matter, &c., 8vo., cloth, price $1.

As a writer, Dr. West stands, in our opinion, second only to Watson, the "Macaulay of Medicine;" he possesses that happy faculty of clothing instruction in easy garments; combining pleasure with profit, he leads his pupils, in spite of the ancient proverb, along a royal road to learning. His work is one which will not satisfy the extreme on either side, but it is one that will please the great majority who are seeking truth, and one that will convince the student that he has committed himself to a candid, safe, and valuable guide. We anticipate with pleasure the appearance of the second part of the work, which, if it equals this part, will complete one of our very best volumes upon diseases of females.—*N. A. Med.-Chirurg. Review*, July, 1858.

We must now conclude this hastily written sketch with the confident assurance to our readers that the work will well repay perusal. The conscientious, painstaking, practical physician is apparent on every page.—*N. Y. Journal of Medicine*, March, 1858.

We know of no treatise of the kind so complete and yet so compact.—*Chicago Med. Journal*, January, 1858.

A fairer, more honest, more earnest, and more reliable investigator of the many diseases of women and children is not to be found in any country.—*Southern Med. and Surg. Journal*, January 1858.

We gladly recommend his Lectures as in the highest degree instructive to all who are interested in obstetric practice.—*London Lancet.*

We have to say of it, briefly and decidedly, that it is the best work on the subject in any language; and that it stamps Dr. West as the *facile princeps* of British obstetric authors.—*Edinb. Med. Journ.*

BY THE SAME AUTHOR. (*Now Ready.*)

LECTURES ON THE DISEASES OF INFANCY AND CHILDHOOD.

Third American, from the fourth enlarged and improved London edition. In one handsome octavo volume, extra cloth, of about six hundred and fifty pages. $4 75.

The continued favor with which this work has been received has stimulated the author to render it in every respect more complete and more worthy the confidence of the profession. Containing nearly two hundred pages more than the last American edition, with several additional Lectures and a careful revision and enlargement of those formerly comprised in it, it can hardly fail to maintain its reputation as a clear and judicious text-book for the student, and a safe and reliable guide for the practitioner. The fact stated by the author that these Lectures "now embody the results of 900 observations and 288 post-mortem examinations made among nearly 30,000 children, who, during the past twenty years, have come under my care," is sufficient to show their high practical value as the result of an amount of experience which few physicians enjoy.

The three former editions of the work now before us have placed the author in the foremost rank of those physicians who have devoted special attention to the diseases of early life. We attempt no analysis of this edition, but may refer the reader to some of the chapters to which the largest additions have been made—those on Diphtheria, Disorders of the Mind, and Idiocy, for instance—as a proof that the work is really a new edition; not a mere reprint. In its present shape it will be found of the greatest possible service in the every-day practice of nine-tenths of the profession.—*Med. Times and Gazette*, London, Dec. 10, 1859.

All things considered, this book of Dr. West is by far the best treatise in our language upon such modifications of morbid action and disease as are witnessed when we have to deal with infancy and childhood. It is true that it confines itself to such disorders as come within the province of the *physician*, and even with respect to these it is unequal as regards minuteness of consideration, and some diseases it omits to notice altogether. But those who know anything of the present condition of pædiatrics will readily admit that it would be next to impossible to effect more, or effect it better, than the accoucheur of St. Bartholomew's has done in a single volume. The lecture (XVI.) upon Disorders of the Mind in children is an admirable specimen of the value of the later information conveyed in the Lectures of Dr. Charles West.—*London Lancet*, Oct. 22, 1859.

Since the appearance of the first edition, about eleven years ago, the experience of the author has doubled; so that, whereas the lectures at first were founded on six hundred observations, and one hundred and eighty dissections made among nearly fourteen thousand children, they now embody the results of nine hundred observations, and two hundred and eighty-eight post-mortem examinations made among nearly thirty thousand children, who, during the past twenty years, have been under his care.—*British Med. Journal*, Oct. 1, 1859.

BY THE SAME AUTHOR.

AN ENQUIRY INTO THE PATHOLOGICAL IMPORTANCE OF ULCERATION OF THE OS UTERI.

In one neat octavo volume, extra cloth. $1 00.

WHITEHEAD ON THE CAUSES AND TREATMENT OF ABORTION AND STERILITY.

Second American Edition. In one volume, octavo, extra cloth, pp. 308. $1 75.

WHAT TO OBSERVE

AT THE BEDSIDE AND AFTER DEATH, IN MEDICAL CASES.

Published under the authority of the London Society for Medical Observation. A new American, from the second and revised London edition. In one very handsome volume, royal 12mo., extra cloth. $1 00.

To the observer who prefers accuracy to blunders and precision to carelessness, this little book is invaluable.—*N. H. Journal of Medicine.*

One of the finest aids to a young practitioner we have ever seen.—*Peninsular Journal of Medicine.*